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VARSLTY

MAGAZINE SUPPLEMENT

TORONTO

1916

CANADA



A decorative border of maple leaves surrounds the text. The leaves are arranged in a rectangular frame, with some leaves extending slightly beyond the corners. The leaves are detailed with veins and have a slightly textured appearance.

MEN—MUNITIONS—FLOUR

CANADA'S CHIEF CONTRIBUTIONS TO THE EMPIRE

THE resources of our country are willingly pledged and freely given in the great cause in which we are now engaged, and in which our Canadian soldiers, and our Canadian people are playing such a glorious part.

Our armies has to be fed as well as equipped. The fields of Canada produce the highest grade of Wheat in the world, and our Canadian Millers are equal to the task of making it into Flour for the use of our Army, and that of our Allies.

In this splendid work the MAPLE LEAF MILLING COMPANY, whose daily capacity is 15,000 barrels occupies a first and unique place. The quality of our Canadian Flour is famed in the flour markets of the world, and the MAPLE LEAF MILLING COMPANY has done much to put Canadian Flour and Canadian Milling in the rank of the world's best.



The MAPLE LEAF MILLING COMPANY's mill at Port Colborne is one of the best equipped flour mills in the British Empire, its geographical situation unequalled. On the line of all railways leading to all Canadian and American seaports, and situated on the terminus of the deep water navigation of the Great Lakes. This mill has been of the greatest possible service to the Imperial Government.

Maple Leaf Milling Company

LIMITED


TORONTO

CANADA



Quality

Service



Courtesy in Business

Fittingly framed and hanging in the Offices of one of the most important Public Service Corporations on this North American Continent is the following

'Did you say Please and Thank you?'

Broad minded men direct the destiny of that Corporation, men who know that public or private enterprise to be lastingly successful must operate for the public good.

Quality and Service are two important factors in our business life today, but Courtesy is the door through which they must enter.

We are large producers of Hamilton Pig Iron and our output of Open Hearth Steel Blooms and Billets, Iron and Steel Bars of all shapes and size run into enormous tonnage.

The products of our mills include practically everything that can be manufactured from Iron and Steel and these we distribute to thousands of satisfied customers.

Our business is an extensive one and a successful one. The World is our market, but our prosperity and success in the future, as in the past, depends upon the continued confidence, co-operation and good will of the people we serve.

THE STEEL COMPANY OF CANADA,




LIMITED

HAMILTON

TORONTO

MONTREAL

WINNIPEG





Canadian Government

Annuities

RATES

Yearly rate (male) for an Annuity of \$100 to begin at 55 or 60, payable for life or for 10 years in any event. Each additional \$100 up to \$1000 purchasable at same rate. In case of death before Annuity falls due, all payments made with compound interest at 3% will be returned to purchaser.

Age last birthday	55	60
15	12.49	8.62
16	13.15	9.07
17	13.86	9.54
18	14.61	10.04
19	15.42	10.58
20	16.28	11.14
21	17.20	11.74
22	18.18	12.38
23	19.23	13.07
24	20.36	13.79
25	21.58	14.57
26	22.89	15.40
27	24.30	16.29
28	25.83	17.24
29	27.49	18.27
30	29.29	19.37
31	31.26	20.55
32	33.41	21.83
33	35.77	23.22
34	38.37	24.73
35	41.24	26.36
36	44.44	28.15
37	48.00	30.10
38	52.01	32.24
39	56.53	34.00
40	61.68	37.21
	etc.	etc.

N.B.—Rates are net, there being no “loading” for any purpose. Rates for females are slightly higher than for males, their longevity being greater.

THE DOOR OF THE POORHOUSE CLOSED.

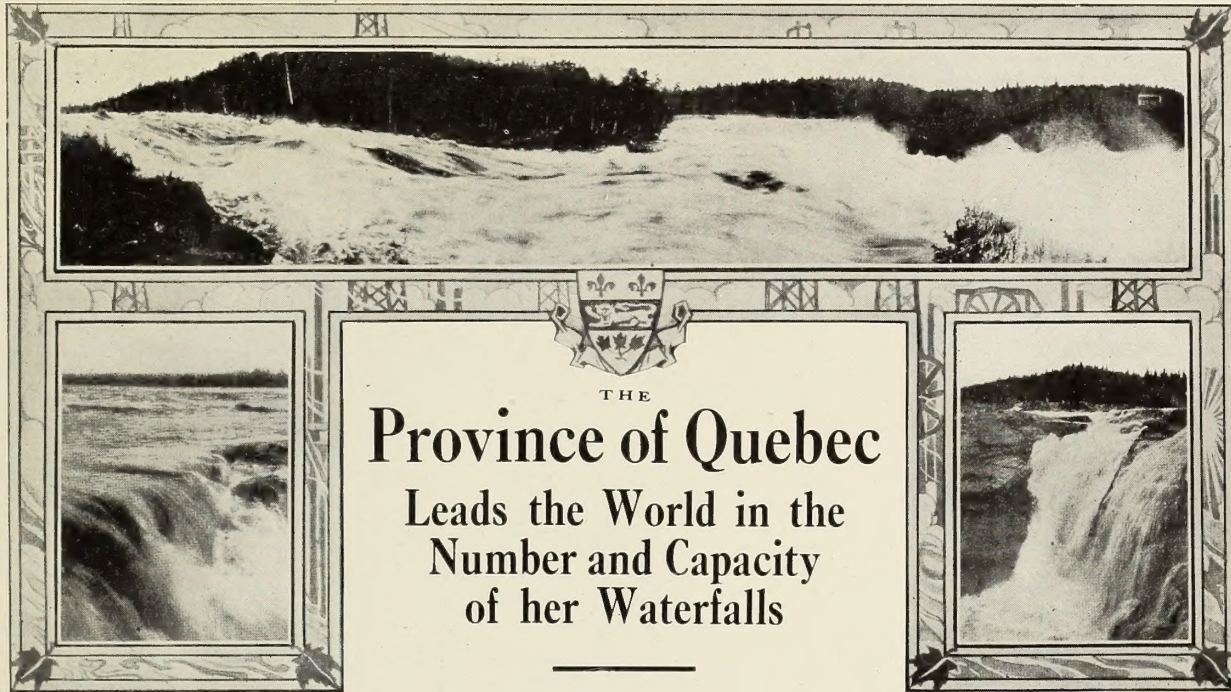
Have you ever thought of the pathetic plight of an old man or old woman in poverty?

The Government of Canada has furnished every male and female over the age of 5 years, if domiciled in Canada, with the means whereby provision may be made with absolute security against such a calamity, and at small cost. (See specimen rates in margin. The rates for an Immediate Annuity for a person aged 55 or over will be furnished on application).

All that is required is that there shall be paid to the Government every month or every year certain amounts in manner that may best suit the convenience of the purchaser, and from 55, or any later age selected, the Government will pay in return so long as the Annuitant may live, or for a certain number of years in any event, *an Annuity of from \$50 to \$1000*, according to the amount which has been paid in.

For example: A man aged 21 by paying \$4.90 a month from 21 to 60 could purchase an Annuity of \$500 to begin at 60. This would be paid to him in quarterly instalments of \$125 each for life, or for 10 years in any event, a return of \$5000 being positively guaranteed, though he might live but one day after the Annuity fell due.

You should investigate this provident system of saving and investment, and full information as to the various plans on which purchase may be made, the cost, etc., will be sent to you if you will address *The Postmaster-General, Annuities Branch, Ottawa*, mentioning your age last birthday. No stamps are required on your letter.



HOW TO ACQUIRE AUTHORIZATION FOR THE DEVELOPMENT OF WATER-POWERS IN THE PROVINCE OF QUEBEC

To obtain authorization for the utilization of a Water-Power in the Province of Quebec, application should be made to the Honourable Minister of Lands and Forests.

Water-Falls capable of developing less than 200 H.P. may, under certain circumstances, be bought outright. But those of over 200 H.P. are granted under emphyteutic leases, the conditions of which are upon the following lines:

1. Duration of the lease, from 25 to 99 years according to the importance of the water-power and to the amount of capital required for its development.
2. Payment of a yearly rental—which does not vary during the term of the lease—for the land granted, counting from the date when the contract is granted.
3. An additional yearly charge of from 10 to 35 cents per H.P. developed, according to the geographical situation of the site of the water-power; such charge being payable from the time the power is produced.
4. The above charge (Art. 3) is subject to revision every 21 years counting from the signing of the contract.
5. A delay of 2 years is granted for beginning works and 2 further years for producing power.
6. The lessee is under obligation to make a deposit in money, or in securities, as a guarantee of good faith in the carrying out of the contract. Such deposit may be forfeited if the conditions are not fulfilled; but it may be repaid after a certain time, in the contrary case.
7. Lastly, the grantee must submit plans of his works, mills, etc., to the Department previous to their installation, and when such installation is completed he must keep the Department informed as to the quantity of power produced.

HONOR ROLL

Overseas and Enlisted for Active Service

LIEUT. COL. JOHN A. GUNN
(Pres. Gunns, Limited)
MAJOR J. N. GUNN
CAPT. R. ERNEST GUNN
LIEUT. MURRAY GUNN
LIEUT. ANDREW GUNN
LIEUT. HAROLD BAKER
SERGT. J. T. CLEVERLY
SERGT. JAMES L. JAMIESON
SERGT. NORMAN AUSTIN
SERGT. BERT LELAND
SERGT. JOHN B. IRONSIDE
(wounded)
CORP. A. INGRAM
GUNNER ROBERT HARVEY
GUNNER WALTER ROBINSON
PRIVATE E. GRISE (killed in
action)
" GERALD E. EARNSHAW
" FRANK BALL
" CHARLES BALL
" JOHN MUIR
" REGINALD WILD
" W. LATHAM
" GEORGE HOYBEN
" CHARLES MANN
" FRED TATTLE
" ROBERT CHAPPELL
" MALCOLM STEWART
" WILLIAM MAY
" FRED BINNS
" EDWARD STRONG
" J. DUXBERRY
" B. CURTIS
" HARRY BREWSTER
" GORDON J. ALLWARD
" J. PORTER
" JOHN HARROWER
" WILLIAM BENT
" THOMAS MARJURY, JR.
" THOMAS THORNTON
" JOHN HALES
" C. SEEDS
" A. AMEROD

PRIVATE WILLIAM STEVENS
" THOMAS TICKLE
" A. GLODE
" JOHN IMLACH
" EARL IRISH
" RONALD GREEN
" FRED WOOD
" JOHN SMITH
" WILLIAM SMITH
" R. HUGHES
" CHARLES BRUNGER
" GEORGE BARNSDALE
" W. JAY
" R. SEDDON
" FRANK CHAMBERS
" JOHN NICOL
" WILLIAM RYALL
" JOHN JOHNSTON
" MORTON ORR
" HARRY ADAMS
" WILLIAM BANKS
" CHARLES NOON
" EDWARD REEVES
" A. O. WINTER
" GEORGE H. HARRON
" GEORGE MILLER
" PHILLIP MACFARLANE
" JOHN MCKENZIE
" DANIEL FULLERTON
" ROBERT HAISE
" ARTHUR MILES
" WILLIAM SARGENT
" FRANK LEMYRE
" JOSEPH McDOWELL
" SAMUEL CAPPER
" PETER TURNER
" EDWARD LATHAM
" W. COVILLE
" FRANCIS MORRIS
" HUGH CARSON
" THOMAS MARJURY, SR.
" WILLIAM SANDERSON
" JOSEPH CAMPBELL
" EDWARD A. ADAMS

PRIVATE WILLIAM ANTHONY
" A. LEADBETTER
" CHARLES NEALE
" FRANK FRANCIS
" W. ANDERSON
" HARRY TYLER
" JAMI SMELA
" ARTHUR FIELDS
" F. PRESTON
" CLIFFORD BELL
" W. BRITTAIN
" ALEXANDER YULE
" WILLIAM HAWKINS
" JOHN HAWKINS
" VASIL SPIROFF
" SAMUEL FODEN
" ERNEST WOODS
" JOHN JOHNSON
" ANGUS G. BELL
" HUGH GILMOUR
" JOHN SIKOISKI
" PETER BOGSWORTH
" L. J. MORRIS
" EDWARD CHRISTOE
" WILLIAM TUCKER
" WILLIAM MELLOR
" WILLIAM CROOK
" ALEXANDER COWLING
" JOHN FRASER
" PETER MACKENZIE
" HUGH HAGARTY
" ROBT. WELCH
" NORMAN MCLEOD
" GEO. BAGSWORTH
" J. KIPPING
" J. WILLIAMSON
" JACK BOYNTON
" JAMES CLARKE
" WILLIAM MILLER
" JOHN BARTHOLOMEW
" S. J. MADDOCK
" ANDREW MITCHELL
" T. SANDWELL
" DAVID DAVIDSON

GUNN'S, LIMITED

PACKERS

TORONTO

The Varsity Magazine Supplement

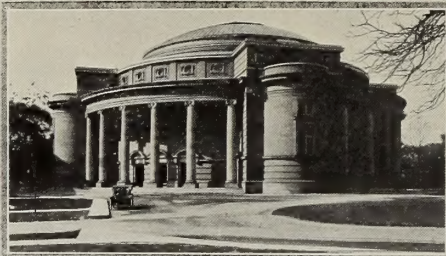
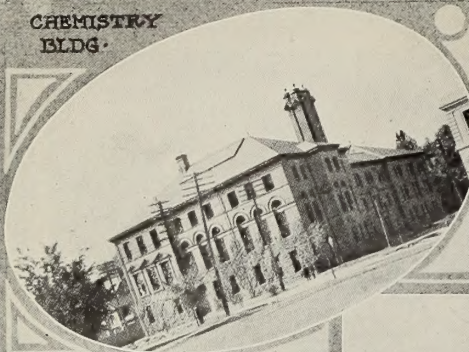
We may build more splendid habitations
Fill our rooms with paintings and with sculptures
But we cannot buy with gold the old associations
Longfellow.



*Published by
The Students Administrative Council
University of Toronto
1916*

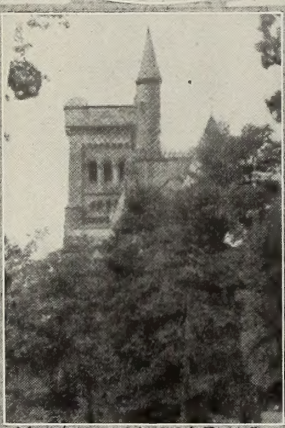


CHEMISTRY
BLDG.



CONVOCATION HALL

CHEMISTRY AND
MINING
BLDG.



TOWER OF MAIN BLDG.



THE MAIN BUILDING



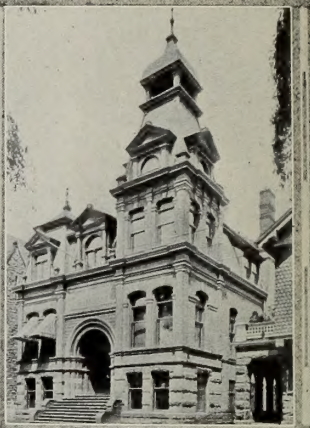
WEST END MAIN BLDG.



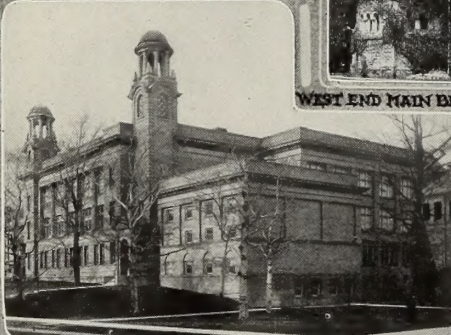
MAIN ENTRANCE



COLONNADE MAIN



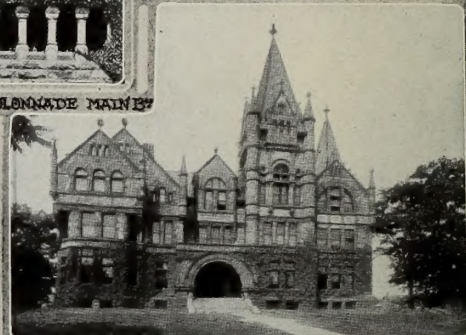
PHARMACY



MEDICAL BUILDING



VIEW FROM TOWER OF MAIN BLDG.



VICTORIA UNIVERSITY



TRINITY COLLEGE



WESTERN HOSPITAL



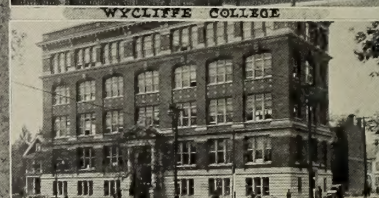
WYCLIFFE COLLEGE



ST. MICHAEL'S COLLEGE



SICK CHILDREN'S HOSPITAL



ONTARIO VETERINARY COLLEGE



HOUSEHOLD SCIENCE BLDG.



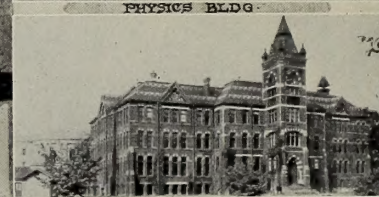
PHYSICS BLDG.



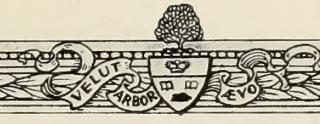
BIOLOGICAL BUILDING



KNOX COLLEGE



ENGINEERING BLDG.



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Toronto is our University,
Shout, oh shout, men of every faculty,
Velut arbor aevo. May she ever thrive,
Oh! God, forever bless our Alma Mater.

THE Editorial Board offers the "Varsity Magazine Supplement" as a humble tribute to those members of our Alma Mater who at the call of duty have surrendered their prospects in chosen professions and left the happy associations of Varsity's old grey tower for the risks and turmoil of war. With Shakespeare they hold that "the strong necessity of time commands our services awhile", and unreservedly they have placed themselves for life or death at their country's disposal. The Canadian Record Officer tells how they may be found swinging along to the trenches in Flanders, singing carelessly but with a challenging catch the University song whose refrain is, "Toronto is our University".

The "Supplement" aims at being a record of the University's war activities and a revenue producing agency for Canadian base hospitals on active service. Some fifty pages are devoted to the photographs of the three thousand graduates and undergraduates scattered throughout the world in various branches of service. The Honour Roll commemorates some of our comrades whom we loved but who will not return to us, for their mortal remains rest on alien soil. To us they have bequeathed their memories and their glory and of them we say simply, "We are proud".

"On Fame's eternal camping ground
Their silent tents are spread,
And Glory guards with solemn round
The bivouac of the dead."

"Our boys" are serving in many scattered units but in these pages will be found accounts of the University Base Hospital, the 67th Battery C.F.A. and the Overseas Training Company, all of which are units composed chiefly of Varsity men and bearing its name.

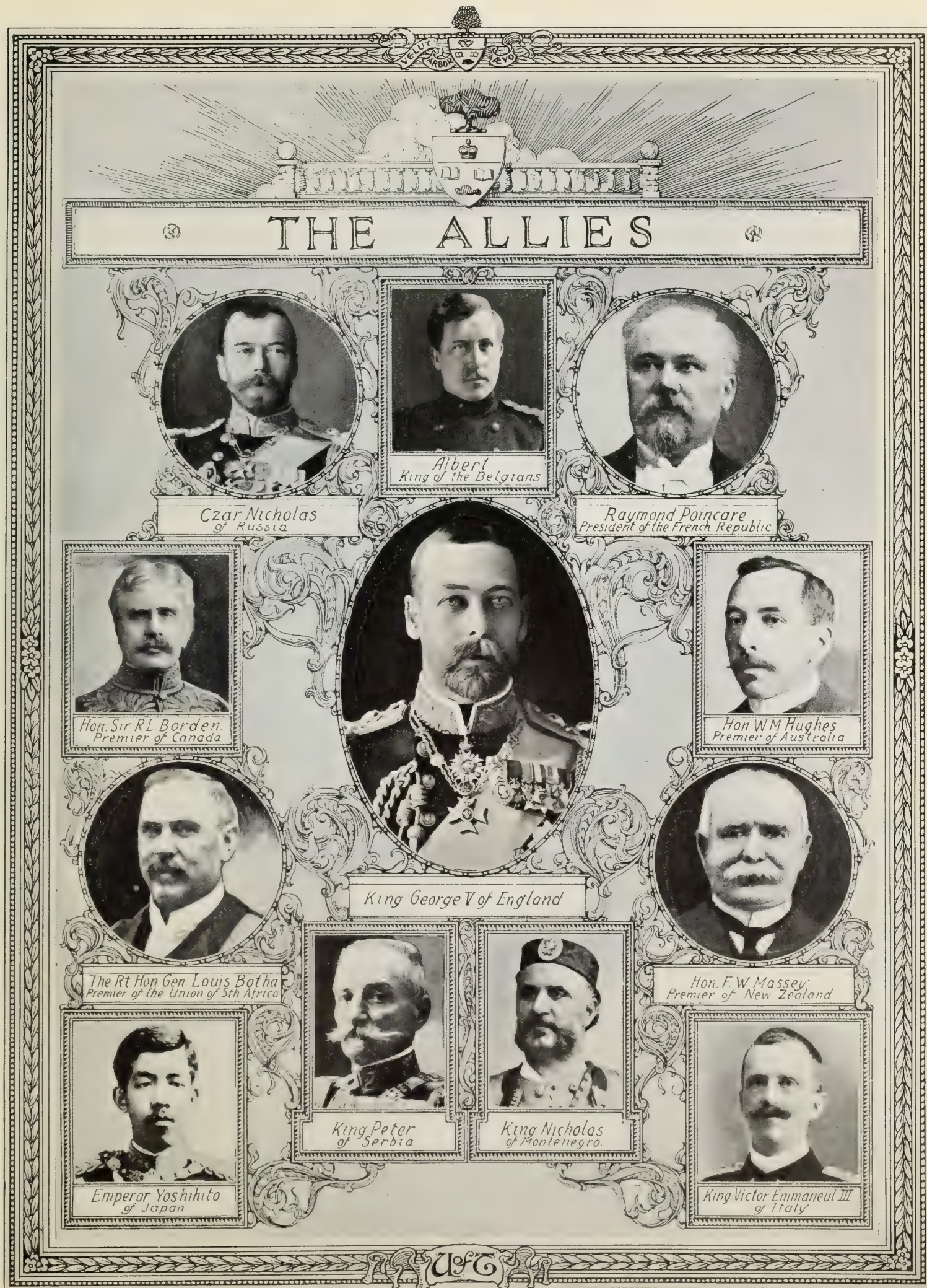
The "Supplement" is sent out by the Students' Administrative Council in its corporate capacity as the representative of all the colleges and faculties of the University of Toronto. Since the war began the work of the Council has been much increased by the claims of patriotic organizations. During the academic year the Council has been privileged to raise the sum of \$2,000 for our Base Hospital as profits on the "War Supplement" published last summer, \$3,404 by the Red Cross campaign of last Trafalgar Day, and \$474 for the Belgian and Serbian Relief Funds. As part of the profits on the present "Supplement" the sum of \$4,130 has been raised for the equipment of the University Battery and the Overseas Training Company, and we hope that in addition the "Magazine" will provide some thousands of dollars for the noble work of our Canadian base hospitals.

We are grateful to those who have helped us by contributing articles, to the friends of "our boys" who have made possible the photographic record by sending in photographs, to those magazines which have permitted us to republish valuable articles and to the advertisers who have so generously supported our enterprise. We mourn the fact that two of our contributors, *i.e.*, Captain Edward Kylie of the History Department and Captain T. G. Brodie of the Medical Faculty have since been numbered with our honoured dead.

"Sing we a dirge for our heroes,
But how shall we keep it free,
From the pride and the glorious knowledge,
That they died for liberty."

SIDNEY CHILDS,

President of Students' Administrative Council.



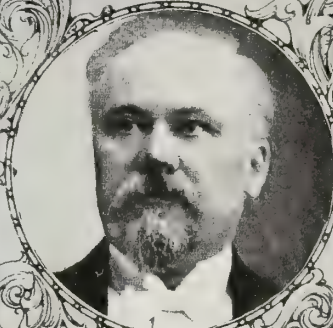
THE ALLIES



*Czar Nicholas
of Russia*



*Albert
King of the Belgians*



*Raymond Poincaré
President of the French Republic*



*Hon. Sir R.L. Borden
Premier of Canada*



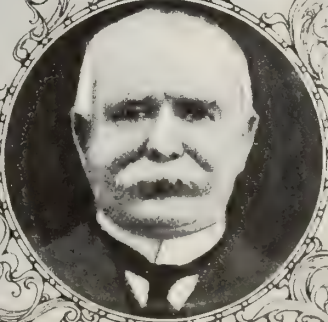
King George V of England



*Hon. W.M. Hughes
Premier of Australia*



*The Rt Hon. Gen. Louis Botha
Premier of the Union of Sth Africa*



*Hon. F.W. Massey
Premier of New Zealand*



*Emperor Yoshihito
of Japan*



*King Peter
of Serbia*



*King Nicholas
of Montenegro.*



*King Victor Emmanuel III
of Italy*



Canada's Word

BY RALPH CONNOR

O Canada! A voice calls through the mist and spume
Across the wide, wet, salty leagues of foam
For aid. Whose voice thus penetrates thy peace?
Whose? Thy Mother's, Canada, Thy Mother's voice.

O Canada! A drum beats through the night and day,
Unresting, eager, strident, summoning
To arms. Whose drum thus throbs persistent?
Whose? Old England's, Canada, Old England's drum.

O Canada! A sword gleams leaping swift to strike
At foes that press and leap to kill brave men
On guard. Whose sword thus gleams fierce death?
Whose? 'Tis Britain's, Canada, Great Britain's sword.

O Canada! A prayer beats hard at Heaven's gate,
Tearing the heart wide open to God's eye,
For righteousness. Whose prayer thus pierces Heaven?
Whose? 'Tis God's prayer, Canada, Thy Kingdom come!

O Canada! What answer make to calling voice and beating drum,
To sword-gleam and to pleading prayer of God
For right? What answer makes my soul?
"Mother to thee! God, to Thy help! Quick! My sword!"



Parliament Buildings, Ottawa

The Premier



IF one of the great services which our universities render consists in the maintenance and communication of a spiritual and intellectual standard which shall permeate and inspire the community, it is obvious that they never have had a greater opportunity than is held out to them to-day. There are truths for whose integrity and preservation in the world we as a nation asserted more than a year ago that no sacrifice was too great. Let us not forget it. Let us not forget that we went to war with a high conscience. Remembering this we shall fight with a quiet confidence that begets strength even while the struggle becomes one for our very existence. Why we must win may be learned from

contemplation of what failure would mean to ourselves and to the world. Splendidly the young men of the universities are responding to the demands of the hour; by their example, by the memory of those of

them who have made the supreme sacrifice, it is laid on the universities themselves through all their continuing life to assume their share in the task of reading aright the lessons of these times--so that to-day all needed effort and sacrifice may be forthcoming; so that in the future the nation may be prepared, not only physically, but mentally, to grapple with the facts and implications of international relationships and to realize and estimate before it is too late the forces at work in the world.



Camp Borden

The President

TWO years of war have gone and the university along with the country has suffered much. Every week names are being added to the list of those who in days of peace would surely have brought honour upon themselves, the university and the nation by other service rendered to the commonwealth. Their career has been short, but on their brief lives much glory has been shed, and its lustre will never fade from their names as they will stand on the walls of this university. To those who have been wounded and to all who are still serving we pay profound respect. From these many have been singled out for distinguished recognition. We offer them our congratulations; they are as it were deputies chosen to wear the badges of a common heroism in which all take pride.

Rarely in history has the choice of public service leading to probable wounding or death been forced upon the decision of so many of the most highly educated youth of the world. The decision transformed life for most when they faced death, because they are not daring or reckless men who have grown callous under constant danger. Those who return from this inferno will never again read their duty in the light of the average man's common day. But no less do we pay respect to the fathers and mothers who did not withhold their sons. They also serve who only stand and wait. To those from whom the uttermost has been required we offer our sympathy not as for an irreparable loss but in their tearful pride that their sacrifice has been accepted. These days are proving the soul of our people. They do not bow dumbly to fate as though we were ants in a log picked by chance from a woodland path and thrown upon the fire. There is reason in this horror. We do not think of it as mere cruel carnage. Out of it will come we believe, some new, enduring, but very costly prize for civilized men, which will be handed by Him who presides over the Game of the ages, to those who are found to have striven best according to the rules of the Game. If by the agony of these years the future will be delivered from domination by such a cruel and immoral system as is revealed to us by some new outrage every few weeks, the awful sacrifice of the present will be another, and perhaps the greatest, of those agonies by which human freedom has hitherto been purchased.

It is interesting to observe how thoroughly our allies, the French, have penetrated to the underlying causes of the war. Their journals contain lucid and incisive analyses of German character and education, history and diplomacy, in which they do not hesitate to trace an ideal which has come into conflict with a more human and more truly spiritual view of life. The Frenchman interprets this war without reserve as something far more than a struggle of ambitious nations with their rivals; for him it is a moral issue. If the Briton is more reserved in his expression he too is moved by a like conviction.

The clouds of war hanging low have caused ideas to re-echo which hitherto have not been loud enough to strike on the ears of the multitude. Among these is the belief that

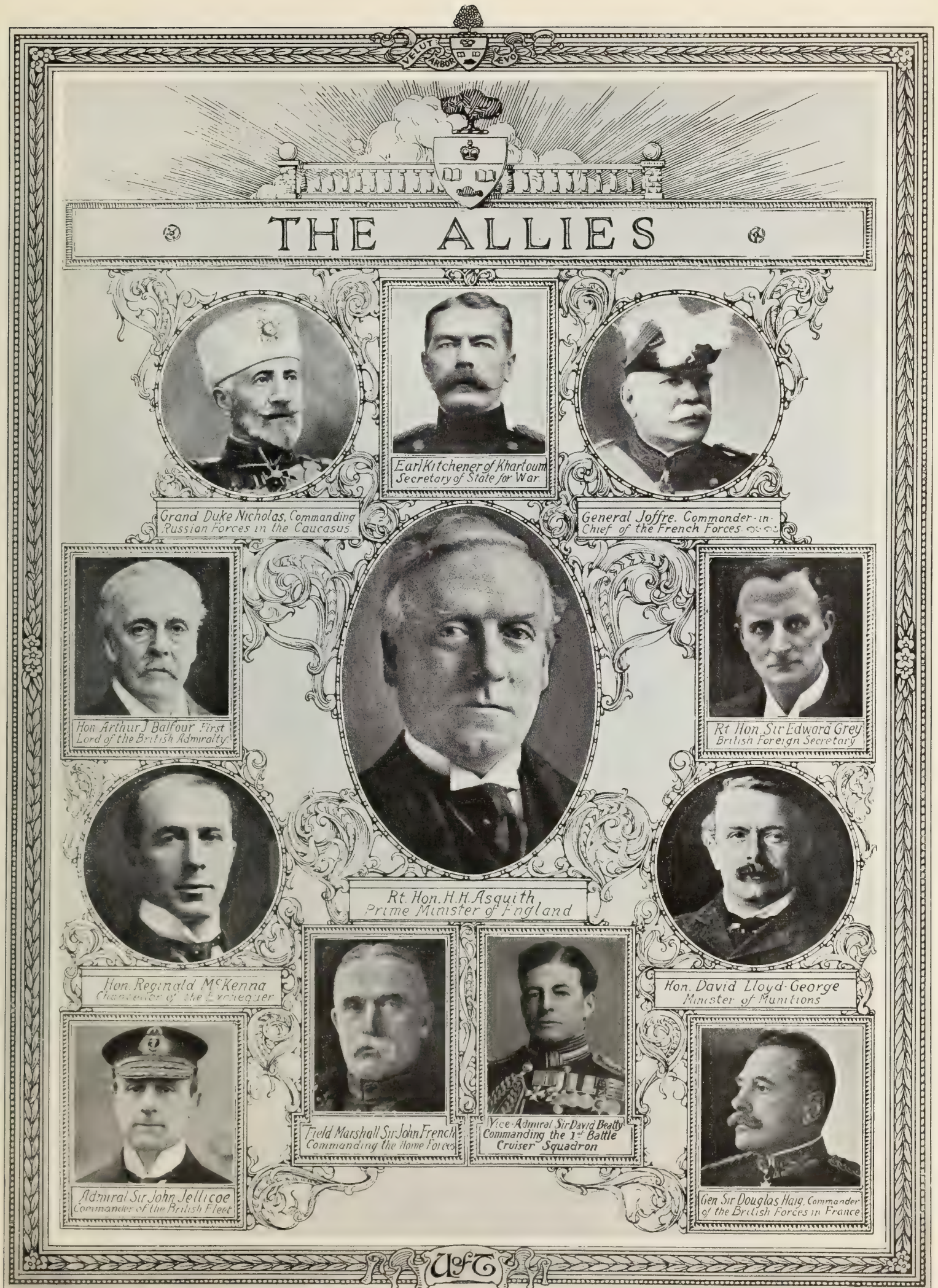
the British Empire lives in order to maintain in the world a unique spiritual ideal, and that the blessings of this type of civilization, instead of being exhausted, are to become more effective by a closer organization of the self-governing parts of the Empire. To bring about this closer union is an extremely difficult problem, partly because the idea has lain inactive so long, partly because prejudices lie slumbering in the ashes of old political controversies and flare up when any breath stirs the heap. But this war has we hope been forging a new Imperialism which has nothing to do with our old party politics. It has shown that the peoples of the British Empire have a common ideal of government, common conceptions of law, liberty and Democracy, and that while

those of us who are of Anglo-Saxon or Anglo-Celtic stock are united in the heritage of our history and literature, all the citizens of the Empire are one in a common loyalty to the Empire because of its character. We look to a future, when without lessening the control of our national and domestic affairs, we shall share as well in determining the foreign and defensive policies of the Empire, on the wise and sympathetic administration of which the perpetuation of the British ideal depends.

Another momentous fact, which however has not been fully realized by our people, is that by our spontaneous sacrifice we have been thrust out into the wide world, and that having taken our share in determining an issue of civilisation we shall never be content with our own provincial and Dominion outlook. Few peoples have come so quickly to their maturity; and our neighbours on this continent will be among the first to recognize it, though even President Wilson in his recent utterances as to the future of the Americas seems to forget that there is such a place as Canada, and that Canada and Newfoundland together with the British West Indies and British Guiana are

the only portions of these continents that are actively engaged in the defence of the democratic ideal. We are no reluctant member of our Empire, and in the future having our word to utter in Council as well as our blow to strike on the field of battle, we shall represent more than heretofore on this continent the British Empire in an ideal of democratic civilisation different from though akin to that of the United States, possessing it may be greater richness and variety because its elements are drawn from the life of our fellow citizens scattered over the earth, and probably also coloured more than theirs by strands from the weaving of our allies, with whom we Canadians have stood side by side in the defence of western civilisation.

R. A. Falconer



THE ALLIES



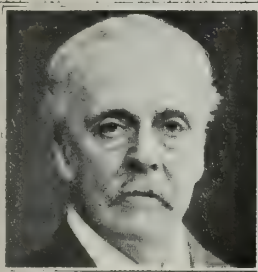
*Grand Duke Nicholas, Commanding
Russian Forces in the Caucasus.*



*Earl Kitchener of Khartoum
Secretary of State for War.*



*General Joffre, Commander-in-
Chief of the French Forces.*



*Hon. Arthur J. Balfour, First
Lord of the British Admiralty.*



*Rt. Hon. Sir Edward Grey
British Foreign Secretary.*



*Rt. Hon. H.H. Asquith
Prime Minister of England.*



*Hon. Reginald McKenna
Chancellor of the Exchequer.*



*Hon. David Lloyd George
Minister of Munitions.*



*Admiral Sir John Jellicoe
Commander of the British Fleet.*



*Field Marshal Sir John French
Commanding the Home Forces.*



*Vice-Admiral Sir David Beatty
Commanding the 1st Battle
Cruiser Squadron.*



*Gen. Sir Douglas Haig, Commander
of the British Forces in France.*

Britain's Control of Trade in War

By ROBERT DONALD

Editor of the London "Daily Chronicle"

ANATION does not go to war only with armed men. It organizes armies, but back of the armies there are many things to be done, things essential for the support of the forces in the field and for the protection of the people at home. We read a great deal about the clash of arms, the marching of multitudes of armed men, of the production of munitions—millions of shells and thousands of guns—of war in the air and under the sea, of all the martial and picturesque elements of fighting; but we hear little or nothing of the great silent work which goes on behind the armies and without which belligerent nations could not endure.

When the war began no country was so ill-prepared as England was for controlling the trades and businesses ancillary to war, for protecting the public against monopolies. And yet no country has done the big things which are of vital importance to the armies and the people so well. The strong hand of the State has intervened, untrammelled for the time being by legislative checks, and has asserted its power of possession, control, direction and regulation in every sphere of trade where public interest and the welfare of the army had to be safeguarded.

When the war took the world—except the Teutonic portion of it—by surprise on August 1, 1914, Europe commercially was at once plunged into anarchy. The first shock demoralized all the exchanges and knocked the bottom out of credit; checks were not cashed, the sacred Bank of England "fiver" was rejected as a worthless scrap of paper. The possession of gold and goods was the only thing that counted. Goods were being cornered and prices were mounting unrestricted to prohibitive prices. England was in danger of a food famine. Promptly the Government set up a Food Control Committee to regulate prices and prevent cornering. It was only a temporary measure to meet an unprecedented emergency. Things settled down in a few weeks, except in one or two directions.

The first discovery made, which no control could help, was that the country was short of sugar. England imported 39,385,190 cwts. of sugar per annum, and two-thirds of the supply came from Germany and Hungary. The outbreak of the war caught the country between two seasons, when supplies from Cuba and elsewhere were stopping and when the German imports had not begun. The stock in the country was very short. Mr. McKenna, who was then Home Secretary and Chairman of the Food Supply Committee, promptly took action. A free hand was given to him by the Government. He called together all the sugar importers and refiners and selected two of them to buy for the British Government. They bought sugar—both raw and refined—all over the world. England invaded the Java market for the first time. Supplies were obtained from Italy, America, the Argentine and other South American countries, from Spain, and from every country which had sugar to sell. The total value of those first purchases was over \$86,400,000—the biggest deal in sugar in the history of the trade.

It was not very long before the holders of sugar discovered that they were selling to the British Government and began to raise the prices. Purchasing then stopped, but the official buyers swooped down on the markets later on, and since then there has been no difficulty about the supply of sugar in England. Contracts for long periods were made. The only difficulty has been, not the shortage of sugar, but the shortage of freight to carry it to England.

The purchasing scheme was only preliminary. The Government set up a commission to control the whole sugar trade. The British Government is the only sugar importer. It sells at fixed prices to refiners, fixes the prices for wholesale houses and retailers. To every intermediary is allowed a fair

profit, and the consumer is better protected than ever he was. When the war came the tax on sugar was about 45 cents per hundredweight. It was raised, for war purposes, to \$2.24. In normal times the retailers would have added 2 cents per pound to cover the increase, but the Government had made so many favourable purchases that it only increased the price to the consumers by 1 cent. per pound, and had left not only the duty for the revenue, but also a profit on the transaction. The duty on sugar is now \$3.36 per hundredweight, and yet it is cheaper in England than in any other belligerent country, and in most neutral countries. The public has been protected and the Treasury enriched. This year's budget includes, as the revenue for the British Exchequer on account of sugar, the sum of \$33,600,000. The British Government now supplies the French Government with sugar at cost price.

The problem of beef supply had to be tackled at the same time as that of sugar. England depends largely at all times on imported frozen or chilled meat. When the war crisis came, the public and the army had to be protected from the Beef Trusts. Early in the war it was evident that the State had to act. Mr. Runciman, the President of the Board of Trade, the department which looks after commercial and mercantile marine interests, intervened.

His first master stroke was to seize all steamers with refrigerating space capable of carrying chilled meat. Chilled meat for England comes chiefly from the Argentine, Uruguay, and from Australia and New Zealand. In 1913 we imported 15,397,554 cwts. of chilled and frozen meat. The Government having got possession of the ships, the two parties were then on a level footing for bargaining. The meat corporations had the beef, but could not sell it without ships. The Government had the ships and wanted the meat, so that it did not take long to come to terms. The business was put in the hands of a committee of shipowners and the whole transit problem was solved without delay. As a precaution against any shortage of chilled meat from the usual sources the Government entered into contracts with a great American meat firm. As a further protection freezing works were acquired in South America for the period of the war.

The enormous quantities of meat imported from the United States for the armies are mainly in the form of bully-beef and other canned meat. The British Government went into the beef business in order to supply the troops at home and overseas with chilled meat. It has done so at an average cost of twelve cents per pound. It also supplies all meat of this kind required by the French army, the Italian army, the Belgians and the Serbians. The amount of meat required several months ago for the British and French armies was 50,000 tons per month; for the Italian army about 10,000 tons per month. These quantities have increased proportionately with the additions to the forces during the last six months.

Having created a State monopoly in the importation and control of chilled meat, the Government had to make provision for domestic supplies outside the army. The Board of Trade arranged to sell to British firms the surplus meat at market prices. They obtained a small commission, lower than hitherto received from traders. Sales to speculators were prohibited.

Wheat was quite as important as sugar and beef, although there was less risk of a world corner. Wheat is purchased for Government account on somewhat similar lines as beef. A small committee, at the head of whom is a civil servant and a corn expert, manage the whole business. One of the largest importing houses was commissioned to do all the purchasing, while the other houses held off, and it was four months before the corn trade, on the selling side, discovered that the purchases were made for the State. Naturally, the

commission which the State pays on such transactions is nominal. The British Government organization buys and ships wheat, oats, fodder, etc., for Italy. The French Government buys its civil ravitaillement wheat through the Hudson's Bay Company. Large purchases have been made in Canada on behalf of the Italian Government.

There are other examples of Government purchase and control of food. Take fish, for instance. The fishing trade in the North Sea has been paralyzed to a very large extent by the war, especially by the danger from submarines and mines. The Government has maintained a service of fishing boats, and has just completed a big deal with Norway by acquiring the whole fish harvest of the year. Last year Germany bought the Norwegian fish supply. This year, before the German agents had time to turn round the British Government had bought the lot, and deprived Germany of the sole outside source of supply. This must have been bad news for Germany, as it means fishless days as well as meatless meals.

The system of Government control has been successful in other directions. There is the case of coal, an article of vital importance. Without coal the war could not go on. Coal is wanted for the allied fleets, for munition works, and for transportation by land and sea. Clearly the production and distribution of coal had to be made a public utility service. The Government passed a Price of Coal Limitation act, which fixed a fair profit for the coal owners according to the prices in the year before the war. Having got the coal owners under control, the act then regulated the prices which the wholesale dealers could charge, and also the retailers, throughout the United Kingdom. The result has been no shortage of coal and no excessive prices.

The regulation of coal has been a stupendous task, as more than half a million men engaged in coal-mining have enlisted, and the first duty of the Government was to see that not only the British navy, but the French and Italian navies, should have ample supplies. Next came the mercantile marine, transport, munition works, etc. The British Government supplies not only its own needs, but also those of France and Italy.

After much trouble the problem of freight has been regulated, as far as England and her allies can control their own mercantile marine, but much of the trade is done by neutrals. The general export of coal was prohibited, except to the allied countries and British possessions. A network of coal and coke supply committees has been set up throughout the country, under the supervision of a central authority, working under the Board of Trade. Beyond supplying the war and Governmental needs, including the railroads of the French and Italian Governments, the British Board of Trade regulates the freights for the supply of coal for commercial and business purposes in France and Italy, so far as it has the tonnage available. Mr. Runciman declined to make this arrangement until France introduced the same system of regulating prices, otherwise the whole of the benefit would have got into the pockets of the French coal merchants.

There is another great extension of State control. On the outbreak of war the British Government took possession of the railways. The plan had been worked out for mobilization purposes years ago. National control had been foreseen, but the conditions had not been arranged. Railroads in Great Britain, as regards organization, occupied a position midway between the State-owned railways on the Continent and the American railroad system. The State interfered to an extent that stopped all competition in many directions without giving the public the benefit of national uniformity. The unifying process had been at work for years, agreements lessening competition had been entered into among groups of lines, and a central committee of officials met to regulate

business common to all and to protect railroad interests against legislative attacks.

On the outbreak of war railroads were nationalized. The Government agreed to guarantee the dividends of the railroad corporations. The management of the roads was placed in the hands of a railway executive board composed of the chief officers of all the railway companies. These men hold daily meetings just like a great American railroad corporation, and control the whole railroad and transportation system of the country. The State not only took over the railways, but also the docks belonging to the railway companies and their harbors and their steamships, engineering workshops, etc.

The first duties of the railways in wartime are to carry troops, next to carry supplies for the troops and the navy, and to distribute foodstuffs for the general community. All this has been a prodigious traffic in itself, but the railroads have been quite equal to it. There have been no complaints about the State management of the railroads. It has worked so well that every one hopes that the State control will remain after the war. There has been no wastage from useless competition or overlapping; and in spite of the fact that over 150,000 railroad men have joined the forces, the service, while somewhat curtailed, has caused the general public no great inconvenience.

From an administrative and financial point of view the State control has been so successful that the Government is able to pay the railway companies their dividends as guaranteed, and at the same time has been able to carry all the troops free. Free travel has also been granted to relatives of wounded soldiers and for the conveyance of the wounded to convalescent homes all over the country. The traffic in connection with Red Cross work, hospitals, and convalescent homes has also been a big part of the free business.

These are only some of the great business undertakings which the war has forced upon the British Government. Except in the case of sugar, all have been carried out by the Board of Trade, whose President, Walter Runciman, is one of the ablest men in the Government, and a man of great business capacity. The subject which perhaps has given the Board of Trade more labour and anxiety than anything else is the problem of shipping and freights. There are several committees at work, handling various departments of the mercantile marine problem.

In one respect the Government was ready for the emergency which was brought about. A scheme of Government insurance for ships in war time was in existence, and it was at once put in force. Under this scheme hulls were insured by the State undertaking to bear 80 per cent. of the risk, a mutual insurance office bearing the remaining 20 per cent. In the case of cargoes the State undertook the whole of the insurance. It would take much longer to describe the mechanism of the various organizations set up to deal with shipping and freights than I have occupied in describing the Government action with regard to food, coal, and the railways, as it is a vast and complicated problem.

There are many other directions in which the British Government has shown its capacity to face trade problems in war. When we come to deal with purely war production, instead of trade control in war, the new burdens undertaken are stupendous. The Ministry of Munitions manages the national arsenals, and it controls and regulates 3,500 industrial establishments engaged in munition work. It has erected twenty national workshops, some of them constituting new towns, one with over 50,000 inhabitants. The expansion of work for the Navy has also been on a huge scale.

Altogether the British public has every reason to be satisfied with the way the Government has managed the production of munitions and the control of trade during the war.





University of Toronto No. 4 Base Hospital

Organization in Canada

BY SIDNEY CHILDS, B.A.

ONE of the strange contrasts of modern warfare is the way in which destruction and preservation of life go hand in hand. Alongside of the wonderful mobilization of the Empire's resources for the provision of fighting men whose primary aim is the destruction of human life must be placed the remarkable organization of the resources of the medical profession for the saving of life. Its work has done much to preserve the finer instincts of humanity amongst those factors which inevitably make for degradation and demoralization during the prosecution of war. Scientific management and modern efficiency has been seen at its best in the hospital work of the campaign on all fronts. Surgery has not failed and once out of the trenches a soldier wounded at the front has as much chance of recovery as a man injured in a peaceful occupation. As a profession that of medicine has probably had greater demands made upon it by the war than any other profession. Our army and navy may be recruited from divergent callings but the staff of an hospital *must* be made up of physicians and surgeons. The Empire has called upon the medical profession in her hour of need and nobly they have responded. Canada has sent many of her best medical men, among them some of the strongest men from the staff of our Alma Mater. In the equipment and maintenance of our University Base Hospital, known as the No. 4 Canadian General Hospital, private beneficence and our medical staff combined to offer the best possible service to the Empire.

Early in the war the University manned a Casualty Clearing Station with our medical students under the command of Dr. W. A. Scott, Professor in surgery at St. Michael's Hospital. Later the University offered to the War Office a base hospital of 1040 beds. This offer was accepted and the

Militia Department authorized the appointment of 44 medical men, 73 nurses and 206 N.C.O.'s and rank and file. The University was given a free hand in the selection of the staff. Fortunately in Col. J. A. Roberts, F.R.C.S., a member of the department who had both the military experience and professional qualifications necessary to command the hospital, the right man was available at the right time and he was at once appointed. With him were associated many of the leading physicians and surgeons, pathologists, bacteriologists and physiologists of our Medical Staff. The nurses were nearly all taken from the hospitals that are affiliated with the University and thus a real university unit was formed.

The order to organize the hospital was received at the beginning of March and at once two committees went earnestly to work—one formed from the Governors, Senate and Staff was to provide the best surgical and medical equipment—the second, composed of ladies connected with the University, was to supply 1040 beds with bed linen and all kinds of surgical dressings and garments necessary for the patients.

For the purpose of raising funds the committees were amalgamated, and a circular was sent to 13,000 alumni of the University and to a few others asking for an initial amount of \$30,000 for equipment. The response was very generous, money coming from all over Canada and from the United States also. As the result of this effort \$60,000 was received. But the response of women who were willing to work was no less generous, so that the hospital took with it not only a complete equipment, but in addition the good will of multitudes of people.

The initial equipment, however, is only one part of what is necessary. The monthly outlay will be heavy while the war lasts. To meet this a munificent donation of \$40,000

has been made by Mrs. Fulford and A. C. Hardy, Esq., B.A., LL.B. (Tor.), and Mrs. Hardy, of Brockville. This splendid gift from a graduate of the University has relieved the committee of its anxieties. Other noteworthy gifts besides the large individual sums are two Wolsey motor-ambulances from Lt.-Col. and Mrs. Gooderham, one from Mrs. J. F. W. Ross, one from Mrs. C. W. Beatty; also a Ford motor from Mr. Alfred Gross of Evanston, a graduate of Toronto, and a limousine through Mrs. Hoover and friends in Cleveland. The ladies' organization is still being maintained and it is hoped the other organizations in the city and province will continue their work of making materials for the supply that will have to be kept up while the war lasts. By the offer of this hospital the interest of the people of the province has been aroused because they have seen the awful task that lies ahead of us. These efforts will not die

down and they should be directed not only to making all that the University Hospital may require but also in supplying the Canadian Hospitals and other work of the Red Cross Society.

The University took leave of the hospital on Wednesday, May 5th, in Convocation Hall, when the Governors, Senate and Staff were present, the Chancellor presiding; together with a large number of the citizens of Toronto. Owing to delay in the transport service the hospital did not leave until Saturday, May 15th, when it was ordered to join the 2nd Canadian Expeditionary Force. They sailed on the "Corinthian" from Montreal. One stage of this enterprise is passed. Now the real service of the hospital begins, when it will relieve suffering, restore sick and wounded to health, and minister comfort to thousands who will have undergone untold hardships for Canada and the Empire.



The Hospital Cooks



Hospital officers playing lacrosse

The Hospital in England, May 27—Oct. 17, 1915

BY CAPTAIN T. G. BRODIE

The Hospital paraded at the Exhibition grounds, Toronto, on Saturday, May 15th, and thence entrained for Montreal, leaving about 11 a.m. The train arrived at the docks in Montreal about 10 p.m., and we at once embarked on the "Corinthian," sailing at daybreak the following morning. In addition to No. 4 Canadian General Hospital, comprising 38 officers, 73 nursing sisters and 206 N.C.O.'s and men, we had also on board a cyclist corps, 3 divisional ammunition columns and a few odd drafts, in all some 1,500 officers and men. Although the accommodation on board was very poor, and I think the nursing sisters suffered most in this respect, we all enjoyed our voyage across the Atlantic. The weather was fine and the voyage uneventful.

On Wednesday, 24th May, we were in touch with the Admiralty and that evening the Captain received instructions by wireless whence to proceed to meet our convoy. Hence the following day, about 1 p.m. when we were apparently some distance south of the Irish coast and in foggy weather, we were picked up by two British destroyers, one of which soon left,

however, to find another troopship which was following us. The other, the "Linnet," remained with us until we reached Plymouth. We sighted the English coast about 4 a.m. and dropped anchor opposite Plymouth Hoe, between 6 and 7. At 10 we proceeded to the Government Dockyard at Devonport, receiving a great greeting from the troops in barracks all along the river and from the boys on the training ships stationed in the river.

Several hours of waiting followed from the time we tied alongside the wharf, spent largely in strolling about the dockyard. Several cruisers were in dock, but we were especially interested in a large battleship on which an army of men were working. She was in dry-dock and they were fixing her heavy armour plates to her sides and turrets. The nurses were the first to leave, being sent up to London, whence after a short time they were distributed to various military hospitals for temporary duty. Some were sent to France, others to London and provincial military hospitals and yet others to the hospital ships in the Channel. A few were also sent



Hospital Ship "Asturias"

to Moore Barracks which was then in charge of No. 6 Casualty Clearing Station, under Colonel Wallace Scott.

The remainder of the unit left Devonport about 5 p.m. for Shorncliffe which we reached, via London, about 11 p.m. The men were then marched to their quarters at St. Martin's Plain and the officers to the Metropole Hotel at Folkestone, for no accommodation was at that time ready for them in camp. After about three weeks, No. 3 General Hospital (McGill) were sent to France and the officers were then allotted the quarters on St. Martin's Plain which had been occupied by them. This was nearer their work and much more comfortable than the hotel.

As there was but little work to be done at Shorncliffe and a long period of waiting was apparently ahead of us, the unit was dispersed to various duties all over the country. Of the officers some were sent to Aldershot, to Woolwich, to the Horse Guards, to the London Hospital and to the Duchess of Connaught Red Cross Hospital at Cliveden. At the latter Captain Duncan Graham was already stationed, for he had been sent over to take on the duties of pathologist to the Hospital some days before we left Toronto. Those thus distributed were Majors McGillivray, McVicar, Malloch, Parsons, Ryerson and King Smith, and Captains Armour, Boyer, Campbell, Fletcher, Gaby, Gallie, Imrie, Lowry, McPhedran, Pearse, Sharpe and Wookey. All the London general hospitals had set aside beds for the wounded and some of them, *e.g.*, King's College Hospital and Charing Cross Hospital, were entirely given up for military purposes. The others had set aside wards and wherever possible had built further temporary accommodation for the wounded. In addition new military hospitals with many beds had been established, *e.g.*, the new Government Stationery Building, near Waterloo Station, which was just completed at the commencement of the war, was converted into a large hospital of 1,000 beds and the old Holborn Infirmity, which had stood empty for some time, was converted into another of between 400 and 500 beds. Similar provision was also made in all the large provincial towns.

As so many physicians and surgeons from the staffs of the London hospitals were serving in France it will be readily recognized that those who remained behind were very hard worked and any assistance which might be given them in their military work by the officers of any unit, such as ours,

which was waiting to go abroad, would be most useful and welcome. This proved especially the case at the London Hospital, where several of our officers, Captains Armour, Fletcher, Gaby, Gallie, Imrie, McPhedran and Sharpe were stationed during the whole or most of the waiting period the hospital had to pass in England. Of others Captain Caulfeild was sent on special duty to Dublin to study some cases of typhus which had occurred there and on

his return he was sent to St. Bartholomew's Hospital, where under the charge of the Medical Research Committee under the National Insurance Act, he carried on investigations upon infection of the pleura. Captain McKenzie and myself were also sent to London to report to the Medical Research Committee. We had taken over with us the necessary equipment for the study of wounds of the chest and soon found every one very willing to help us in our work. We were granted ample laboratory accommodation and assistance at the London School of Medicine for Women, and every facility for our clinical work was offered us at the Endell Street Military Hospital.

Thus only a few officers were left at Shorncliffe and from them two Medical Boards were formed. The first consisted of Colonels Primrose (Chairman), Hendry and Gordon. The second of Colonels McKeown and Chambers, and Major Royce. Their duty was to examine the convalescents from the local hospitals or camps and determine whether they might be returned to duty or must be invalided home. Later when Colonel Gordon was invalided home, Captain Watson was appointed to the Board. Soon after arrival Major Amyot was appointed Sanitary Officer to the camp at Digby, and a little later was sent to France as Sanitary Officer to the First Division.

The men of the unit had also been drafted to various places, London and elsewhere, a large draft being sent



Physical Drill on board ship, 7 a.m.



Hospital with mountains in the distance



Sisters' Tents—"Rue de la France"

as orderlies to the Military Hospital at Moore Barracks, Shorncliffe.

About the middle of September the unit was placed in charge of the Military Hospital, Shorncliffe, and continued in this until they left on the 17th October.

In this way the long period of waiting passed. The meaning of the prolonged waiting was, undoubtedly, that another large base hospital of 1,000 beds was not at the time needed in France, where, indeed, there was a large number of empty beds. The University had been promised that the unit should be kept together as a whole, so there was nothing for it but to keep them waiting until the necessity arose for establishing a new hospital of this size. At last, early in October, we were told that we were to leave England and that

our destination was somewhere in the Mediterranean. Everything was soon ready and on the 17th October the hospital sailed, leaving behind, however, Colonel McKeown and Captains Caulfeild, Campbell and myself. Shortly before, Captain van Wyck had been added to the strength. The nursing sisters were sent by an earlier ship and have been working on various hospital ships in the Mediterranean. When the hospital which we now know is stationed near Salonika is ready the nursing sisters are to rejoin them, and the unit will be once again complete and ready to undertake the strenuous work which was its aim from the start. From its personnel and the magnificent equipment it received we may well feel assured it will give a right worthy account of Canadian Medicine and Surgery.

In the Mediterranean and at Salonika

LETTERS FROM COLONEL J. A. ROBERTS

"The original orders read that we were to embark at Southampton, where all our goods had been collected in the Advance Depot of Medical Stores. We sent a working party of fifty men to Southampton and they loaded about half of the stores on a transport that had been assigned for our use, when suddenly an order was issued that the stores were to be removed and loaded into trains. These were then sent to Devonport and finally we received orders to entrain at 11.30 on Saturday evening, October 16th. Up till this time I was of the impression that my nursing sisters were to come with me on the ship, but on arriving at Devonport I found that no provision had been made for them and after hunting around I managed to secure the information that the probable intention was to send them after us in a hospital ship.

"During the voyage we were blessed with particularly fine weather. We touched at Gibraltar, then went into Malta for orders, where we remained for five days, and were then sent on to Alexandria, Egypt. Again we had to unload all our equipment and personnel from the boat, the former being piled on the docks while the men were allotted to a rest camp on the outskirts of the city, the officers being billeted in various hotels. Knowing that the headquarters for all operations in the Mediterranean was

likely to be situated here I made enquiries and found where the chief Medical Officer of the whole force had his office. I took occasion to call on him, as soon as possible, and found him, fortunately, to be one of the most capable

English officers with whom I have had to deal. We went into the whole subject of the Unit, its field of usefulness, and he is the first man I have met since leaving home who seemed to appreciate and welcome what the University has sent out for service. He at once arranged that we should proceed to Salonika by a hospital ship, and in a day or two we were ordered to re-ship our equipment and embark on one of the Castle liners acting in that capacity. He also got

the wires busy for me and located my nursing staff, who, in the meantime, had been flying all over the Mediterranean and Aegean seas in another hospital ship. He issued orders for them to be taken from the boat on its return to Malta and this was done. He also accompanied us to this point

and from my first introduction to him has done everything in his power to help us to get away to a good start.

"We landed on Wednesday afternoon, the tenth of November, and immediately proceeded to the camp site that had been allotted to us on the main Monastir road, about four and a-half or five miles from the city. We were the first General Hospital to arrive on the ground and conse-



Boats attendant on ship at Malta



General view of Alexandria

quently have got what I think is by far the choicest location available. The local base officers, with whom we have to deal, found it necessary to ask us to receive patients the day we arrived, so we admitted about forty on Thursday night, and the stream has kept up ever since. You can imagine what this meant. Pitching the canvas, unpacking the goods, equipping every tent and bed was no small matter, but it was done with so much enthusiasm and cheerfulness that at the end of five days we had practically the whole of our canvas up and equipped. In three days we had 250 patients and at the end of a week we were up to what has been our average ever since, viz., 450 to 650. To-day about the latter number are occupying our beds. The ordinary routine of General Hospital work has been carried on from the outset without a hitch and our daily admissions vary from 40 to 50 to, on one day over 200, and the discharges to duty and to the hospital ships average from 30 to 70 or 80. So you see we are getting at once into the constant grind which it will be from now on as long as the hospital is established, taking the patients in one door, sorting them out, administering to all their needs, sending to the hospital ships those cases that are suitable and must be returned, and holding for treatment those who will be available for duty within a reasonable length of time.

"My dear Dean, I cannot tell you how glad we are to be at this work as a Unit. Can you realize that this is the first time since we stepped off the boat in Plymouth harbour, the end of May last, that all the members of this Unit have been together, and that this is the first opportunity we have had of working as a Unit? This fact, in itself, is very gratifying and it is enhanced by the feeling that we are on the ground floor here so far as future work is concerned. Goodness knows what the future has in store along the line of military development, but it looks now as though this were going to be a busy spot and if anything turns up we are sure to be in the midst of it and have our fondest hopes realized regarding the quality and quantity of the work that is to come to us, and the Unit will have a chance to show the scope of its possibilities. Up-to-date we seem to have created more than a favourable impression on the minds of all the Staff Officers here and as a result we have no difficulty in securing their

co-operation and help in anything they can do to make the settling down process run as smoothly as possible. Of course, even at best, things are pretty rough just now. We are living in tents and if you could look out to-day or could have been here yesterday and lived through the rain first, then the wind, and to-day the snow and sleet, and waded through mud above your ankles, you would perhaps realize that we are not running a Toronto General Hospital, nor sleeping in a bed of roses.

"As soon as I knew that I could look after the girls I asked the General to send them along. Sixteen of them arrived about ten days ago and the remainder on Tuesday last. They are in excellent health, with the exception of one or two who are bad sailors and show the effects of a rough passage which they had from Malta. They at once went on duty in the wards, and, believe me, it was a joy to have them. The men are all right in their place, but I am firmly convinced that their place is not in the wards looking after sick men. No one can do that like the nurses. We have them housed in big Indian pattern tents with double walls, each of which accommodates four very nicely, and they all seem to be very comfortable and contented. Everyone is pitching into the work as though their lives depended upon it and they are certainly looking after all the men who come in, in a way that I am sure would compare favourably with your standard in the T.G.H. At any rate we are doing everything under the sun that we can for everyone who comes in and trying to send them out better, if possible, and if not happy, contented and satisfied that we have done everything that lies in our power for them. Our

greatest need at the present time is an adequate water supply. At present everything is delivered in water-carts and has to be hauled from a well about three miles away. This means that the supply is always limited and sometimes we are decidedly short. We are chlorinating and boiling all that we use, and, believe me, I do not know what the real taste of food is now. Everything is permeated with the flavour of chlorine, some days much worse than others, but it is surprising what you can get accustomed to when you have to.

"About the cases, motor-lorry, ambulance, etc., that you are sending out to us, I hope the authorities in England will forward them right along as they will be particularly use-



Cherif Pacha Street, Alexandria



Group of Hospital Officers in an old Turkish trench of the last Balkan war

ful. We are just beginning to find out what our needs are going to be and, judging by the present weather, we are going to need lots of comforts, especially warm clothing, mitts, socks, and such things.

"The weather during the past few days has been exceptionally cold. The ground is at present covered with snow and this is accompanied by a high wind which makes it very difficult to keep the patients, let alone the nursing staff, anything like approaching a degree of comfortable warmth. . . . We are informed that the present weather is exceptionally severe for this time of the year and that we must expect some severe conditions during January and February, but I fancy you can count on it that the weather will be something like our December or March at home. At any time since we have been here the nights have always been very cold, the temperature commencing to drop about three p.m., and remaining down until the sun has been up for two or three hours in the morning. In the summer I believe it goes to the opposite extreme and becomes very, very hot and dry, so that we will have to prepare for practically all conditions. Fortunately the officers and nursing sisters were provided with rubber boots during the past few days or we would have suffered considerable inconvenience from wet feet, etc. The men have to endure a good deal of discomfort and I tried, unsuccessfully, to secure for their use a supply of rubber boots from the authorities here. Failing in this I was able to get them an issue of the very heavy, coarse English military boots, which has helped matters considerably for the time being.

"The operative work is at a standstill for the present time on account of our inability to raise the temperature of the operating tent above 35 to 40 degrees, but until a couple of

days ago we were able to manage fairly well and we hope that the present severe conditions will abate a little and let us carry on that branch of the work.

* * * * *

"A thousand thanks on behalf of myself and the Unit for your suggestion in cable *re* Christmas comforts. They will certainly be much appreciated and we will all get our heads together and decide what will be the best course to pursue in expending the sum named.

"We have got our Mess working but under rather rough conditions; a cook-house in the form of trench kitchens, etc., and Mess for officers and nurses in big marquees. It is not very easy for the men to work under these conditions and serving things as they are capable of serving them, but they are really doing wonderfully well and we are all making the best of it. There is one bright aspect to the present conditions and that is this—the authorities have decided to make this a hut hospital. The Engineering Department has surveyed the grounds for the huts and are sending a working party out to put in the permanent foundations immediately. The huts themselves are being shipped here in sections and I understand are due to arrive at any time. The Director of Works promised me, two days ago, that he could have all the buildings erected within one month after the arrival of the parts, but I think that this is a promise which it will be pretty difficult for him to realize if I can judge from the speed with which a good many of their other enterprises are carried out. However, if they will put up the ones most immediately needed, according to our directions, we can worry along then without holding them to the time limit of a month. This state of affairs will be a great boon to all of us and will make life worth living, especially for my nursing sisters."

LETTER FROM LIEUTENANT-COLONEL A. PRIMROSE FROM SALONIKA

"The small card I sent you at Xmas time gave you some idea of our activities up to the time of writing, subsequently we had a period of still greater activity and our capacity was taxed to the utmost so that during the first month of our sojourn here we had no less than 2,500 patients through our wards. The pressure however gradually diminished as the activities at the front ceased and since that time our work has been merely that of attending the sick and injured in a large military camp. For about a month this work alone was pretty heavy because the other base hospitals were not established but now we take our turn in admitting and we receive patients every third week only, as there are two other British hospitals in this immediate neighbourhood. These are No. 28 and No. 29. The British Columbia Hospital, "No 5 Canadians," is on the other side of the town some 5 miles from here and they get work from their own district along with some British Stationary Hospitals there. It is the intention to remove all the hospitals to sites near No. 5. It is considered the danger from malaria would be much less as there is a good deal of marsh land immediately to the south of our present camp

and the mosquitoes will no doubt be plentiful. We are to be moved as soon as huts are provided for us and they are busy erecting them at present. Thus far we have been under canvas and it is quite an experience, the nurses have very

comfortable quarters in large rectangular Indian tents; four nurses in each tent; the officers and men are in bell tents. Each officer has a bell tent and it is quite remarkable to me how comfortable one can be under such conditions; we had no floor for our tents, but reed matting with rugs proved an excellent substitute. A few days ago however wooden floors arrived and we are now using them. The surface is certainly more smooth and regular but we really got along

very well without them. We have a gas stove for heat and a small "primus" stove for boiling water, and under these conditions a comfortable sponge bath is possible in the morning, which is very refreshing after a good night's sleep in a comfortable bed. We each have a good lamp for light at night and we have gradually secured suitable furniture for our tents, so that we have nothing to complain of. I am at present writing you in perfect comfort with my gas stove going and a gale of 40 to 50 miles an hour



Hospital Officers at the Pyramids

blowing outside! We have been exceedingly fortunate in the weather; the last week in November we had a blizzard with snow and frost lasting 4 days, but since then the days have been perfect, an occasional rainy day but mostly bright sunshine; we had too, an occasional frost but never severe. The winter now is practically over and the grass is beginning to grow, the song birds are putting in an appearance and before we know it we shall be donning helmets and summer clothing. The nurses and the officers have each a mess tent and we have a common kitchen. Then we have a recreation tent for the nurses and one for the officers, and in both we have a gramophone with some excellent records provided by our kind friends in Toronto. In the officers' tent is a piano and this tent is used for Divine service on Sunday. Then we have a common library tent for nurses and officers, where we have the current medical journals and medical library as well as numerous shelves full of current literature. For recreation and exercise we get out La Crosse sticks and pitch the ball about our parade ground, or some prefer to kick a football; again a few of us have attempted golf but the ground is not very suitable for the ancient game. So much for our social life.

The entire hospital is of course under canvas and it is an interesting experience to conduct one's work under such conditions. We have Canadian Hubert tents for wards, five of which laced together make a long ward capable of accommodating 30 beds or if need be 40 beds. The high winds and occasional wind and rain have been very hard on our canvas and it would not stand for many more months. We have succeeded in making our patients very comfortable in these wards; the sisters are able to do their work splendidly and Tommy Atkins is always found there most content and grateful. This was given expression to in a motto constructed with cotton wool letters on a background of a red blanket, erected in one of the wards by the patients at Christmas time which read:

"May the angels above and the devils below,
Protect the Canadian sisters wherever they go!!"

The operating tent is a large marquee with a wooden floor. In it we have all our sterilizing outfit as well as our operating tables and the full equipment necessary for our operative

work; with the exception of one or two days we have been able to keep the temperature at 70 or more if we wished it. The sisters in charge there have done excellent service and we operate under conditions ensuring the maximum amount

of safety and convenience. Then we have our special tents for ear, nose and throat work; one for the eye and one for genito-urinary work; a marquee for Dentistry provides a department the importance of which cannot be overestimated. The British hospitals are poorly supplied with dentists and it has proved the greatest possible boon to us to have such a highly efficient department in our unit. The poor Tommy who has no

teeth has a hard time in the trenches where he has to subsist on hard tack and bully beef. Then our X-ray department is doing splendid service, it was quite a problem to equip a tent for skiagraphic work but thanks to the resourcefulness and skill of those in charge we are able to obtain results which are unexcelled, and this has been most valuable work for treatment and for our records. The laboratory is also well officered as you know and the work done there is much handicapped because of the impossibility of keeping constant temperatures for their thermostats in tents. A few days ago however they moved into a hut—the only hut which has been erected in this camp, and they are now well housed and can carry on their work satisfactorily. We are distinctly better off in the equipment and efficiency of the laboratory than any other British unit here and it has been suggested by the D.M.S. that it should be a Base Laboratory for the whole

British force here, and it is now so considered.

The men, under the sergeant-major of University campus fame, are all doing good work and are performing their multitudinous duties well and efficiently. They, like the officers, enjoy a round of football or other form of athletic exercise on their parade ground when not on duty,—recently an exciting match between N.C.O.'s and men was in progress; it was an association game

and was conducted with much energy to the discomfiture of the N.C.O.'s.

We have a number of medical students in our unit and we got together and mapped out a course for them; they have clinics and lectures every day and I trust they may put in a most profitable year.



A surgical ward at Salonika



A group at the Pyramids



OPERATING ROOM
HUT



WARD HUT
SHOWING MOSQUITO
NETTING CANOPY
OVER EACH BED



WOODEN HUTS AT NEW SITE



NURSES' RECREATION HUT



"QUININE PARADE"



ADMINISTRATIVE HUT ON NEW SITE



KITS READY FOR SORTING AND DISINFECTION

NO. 4 CANADIAN GENERAL HOSPITAL IN WOODEN HUTS AT SALONIKA.

BY LIEUTENANT-COLONEL A. PRIMROSE.

The Hospital continued their work under canvas throughout the winter. This period extended from the date of the arrival of the Unit at Salonika, November 10, 1915, until May 25, 1916, when the work of transferring the Hospital and its equipment to their new site was completed. The work of transfer was no easy task but was carried out most efficiently and expeditiously under the direction of our Quarter Master Staff. It was necessary to take down all the tents and to pack them neatly. The old camping ground was eventually left clean and tidy with nothing to mark the place of our sojourn except the wooden hut which had been erected for our Pathological Laboratory and which formed the only permanent structure on our erstwhile hospital site. The transfer of our equipment was effected by large motor lorries which carried as many as fifty loads a day over the six miles intervening between the two sites.

The impressions we formed of the new site and of the new buildings were most favourable. The site is on a small peninsula which forms the eastern boundary of Salonika Harbour. The point of this Peninsula is occupied by a Greek Cavalry Barracks and fort and is known as "Little Kara Barun", distinguishing it from a much larger Greek fortress guarding the mouth of the harbour and situated on the Peninsula of Cassandra and known as "Big Kara Barun". Our hospital ground is situated on a rising slope commanding a very fine view of the harbour and the town at the head of the harbour. Our lines are actually about a mile distant from the outskirts of the town. Between our lines and the harbour are the lines of No. 5 Canadian General Hospital. Still nearer the shore is a French Aerodrome. On the opposite side of the peninsula from the harbour there is a cliff about twenty feet high with a steep descent leading down to the shore. Here there is a good sand bottom and we look forward to an early morning dip in the Mediterranean. The beach is about a mile distant from our lines. As there is no tide in the Mediterranean we can bathe at any hour of the day.

The Hospital is constructed solely of wooden huts. These huts are of a substantial character and are made of clean new unstained wood. The foundation of each is laid on posts which are sunk to a sufficient depth into the ground. Each hut is 140 feet long and eighteen feet wide with a wall nine feet high to the eaves. The roof is slanting from a central ridge pole and is covered with red tiles. There is a ceiling of wood leaving an air space between it and the roof above. This will be of advantage in hot weather in keeping the hut cool. The inner sides of the walls are likewise ceiled in wood and there is a good wooden floor. There are 82 of these huts at present completed. Some three or four more are still to be erected. Nearly all the huts are of uniform dimensions but there are some exceptions. The operating huts for example are only about one half the length described and a few huts are longer than is ordinarily the case.

Groups of huts are arranged in blocks. Thus on the highest part of the ground and furthest away from the harbour are the huts for the personnel of the Hospital. In the centre at this end of the group is the group of huts forming the officer's quarters, to the south a group forming the sisters' quarters and to the north a group for the men. This strip of land containing the lines of the personnel is separated by a strip some 150 feet wide from the huts which form the Hospital proper. Continuing down the centre of the ground all the way to the front line is a group of huts which are for administrative purposes solely. These lie parallel to one another and run, lengthwise, from north to south. There are some 14 of these administrative huts. A number are utilised as store huts, then others as dispensary, kitchens, bath house, disinfecting hut, etc. The central hut on the front line is the "Administration Hut" proper, where are the administrative offices, *e.g.*, those for the commanding officer, the matron, the adjutant, the registrar, etc., etc. On either side

of this group of administrative huts are those forming the wards of the Hospital. To the south are 21 surgical huts and in this group in addition are two large huts for officers (wounded or sick), two operating room huts, one dental hut, and one combined X-ray and pathological hut. To the north of the central group are the huts for medical cases of which again there are 21. Towards this side of the Hospital also is the Mortuary. A few huts are still to be erected for certain types of disease which require special isolation.

Each hut is suitably divided up by partitions for the specific purpose for which it is required. Thus a ward hut possesses the necessary partitions at one end to provide for the administrative rooms, "ward kitchen", "bath room", "record room", etc. The lighting of the huts is excellent and the windows are provided with wire screening to keep out the flies and there are also screen doors.

The operating room huts are provided with a large window space at one end, facing west, to provide the necessary light for operative work. Each operating hut is complete in its equipment. There is a room provided for sterilising purposes well furnished with large sterilisers, for instruments, dressings and for water. Suitable sinks and basins for washing are also installed. In the operating room proper are two modern tables, instrument tables and cabinets for storing instruments. There are also stands for "drum sterilisers". In fact the equipment of the operating room is absolutely complete in every particular and would be surpassed by none in modern hospital equipment.

The Dental hut is similarly well equipped. Here are the necessary chairs for the dental operator with cabinets for instruments and all the necessary apparatus for sterilising work. There is a plaster room and work shop used by the Dental Surgeons.

The X-ray room and laboratory of the Pathological Department are housed under one roof. One end of the building is devoted to X-ray work and here again is all the equipment such as is found in any up to date modern hospital. The Pathological Laboratory is similarly complete in its equipment. All the apparatus necessary for scientific investigation and research is available.

Each group of buildings forming the living rooms of the personnel is arranged in a suitable manner. In the centre of each of the three groups of buildings are the huts which serve as mess rooms, recreation rooms and kitchens. Then surrounding this central area on the four sides of a square are the dormitories and private rooms. Each dormitory hut is divided up into cubicles, each of which is 12 feet square, a corridor six feet wide running the whole length of the building save at each end where the last room is allowed the full width of the building, thus providing at either end of the hut a room 18 feet by 12. There are twelve cubicles in each dormitory hut with a bath room. One of these cubicles in the south hut of the officers quarters is used as a library. Here we have a large number of books of a professional character which may be consulted when occasion requires. There is also an extensive library of general literature. The current periodicals are to be found in the Recreation hut.

The Hospital as at present constituted will accommodate 1056 patients. The wards are provided with comfortable beds and every bed has suspended above it a mosquito netting attached to a hoop. This netting when brought down will cover the entire mattress under which its lower edges are tucked when in use. There is thus provided an ample covering for the bed and patient with an abundance of air space within the netting.

The Hospital has a water supply laid down in pipes to every hut, a complete sewage system and an electric light and power plant with our own power house on the grounds. It will thus be seen that the Hospital when complete will be unsurpassed in facilities and equipment as a modern institution for the treatment of sick and wounded.

With a Graduate in Mesopotamia

THE following extracts are from letters written by Rev. Leonard A. Dixon, M.A., from somewhere in Mesopotamia. Rev. Mr. Dixon has been engaged in Y.M.C.A. work with the troops. He is the son of Rev. Canon Dixon, of Toronto, and a graduate of Arts in the University of Toronto.

"Enough imprecations have already been called down on the head of the censor to make it unnecessary for one to call down more. It is, however, necessary to mention him at the outset of this account of what is being done for the troops in Mesopotamia in order to explain what might otherwise appear to be a meagre and indefinite report.

It was not until July of last year that the National Council was in a position to send a representative to open up work among the troops of the Indian Expeditionary Force 'D'. Although the offer had been made some weeks before, it was not until the middle of that month that the sanction looked for was given and the secretary sent from Bombay. On his arrival in Busra he was received by the army commander and the deputy adjutant and quartermaster-general and asked to begin his work among the men in the Convalescent Depot—men who had been discharged from hospital, but who were not well enough to return to duty. From here the work spread to the other camps in and around Busra until to-day there are no less than eleven centres of activities in these places. Amara was the next place to be occupied. In many

ways it is even more important from the standpoint of our work than Busra. Here we have now three institutes and a staff of six men. After Amara, Nasariyeh, on the Euphrates, was made a centre of work. From word just received from there it would seem that we shall soon have to increase our staff there if we are to meet the existing needs. Beyond Amara our men have been travelling back and forth to the firing-line on the hospital steamers. Here at the request of the medical authorities they have been rendering most timely aid in the care of the wounded and sick. We have now just received word from the G.O.C. Tigris Corps that permission is at last granted to us to go forward to the advance base and open work up there. Four men have therefore been sent off with full equipment and stores for this most urgent of all places. We have thus in all a staff of twenty-nine men at work in sixteen centres scattered between Busra and the firing line.

'Somewhere in Mesopotamia' is synonymous in many people's minds with 'Jericho' or 'Timbuctoo'; but if it is a vague expression 'Something in Mesopotamia' is perhaps even more so. The questions asked us in letters which reach here periodically from home, and the meagre references in the press to conditions out here are sufficient to show that very little is known in India or elsewhere of the hardships with which the gallant troops of the Indian Expeditionary Force 'D'

have had to contend. The terrific heat, the pestilential fevers, the difficulties and privations incident to trekking in the desert, the ghastly fighting in the swamps, the burning thirst, the short rations which are sometimes unavoidable; the long periods of convalescence following on attacks of disease, the loneliness of the outposts and the absence of the comforts and attentions which have been showered on men fighting in some of the other theatres of war and which have led 'Tommy' to feel that out here he is forgotten—all these have contributed to make the life of the campaigner in Mesopotamia anything but an easy one. Indeed, the following story told me recently by one of the officers is not mere fiction. He said that while lying in his tent one night he overheard some 'Tommies' in the adjoining tent discussing the transmigration of souls. After each had given his views the consensus of opinion seemed to be that whatever the sort of animal they may be born as, in a future state, whether it be a horse, cat or dog, their lot could not be harder than it is here and now.



A Regimental Bazaar

The existence of these conditions has presented what is at once a challenge and an opportunity for the Y.M.C.A. We have sought in every possible way to alleviate the hardships, to keep the men contented, and to render them more efficient by ministering to their greatest needs. Thus, providing recreation rooms, libraries, canteens, evening entertainments, writing-rooms, athletics, information bureaus, refreshment rooms and hospital visitations have been

some of the methods by which we have sought to meet the thousand and one needs which 'Tommy' has.

The writing-rooms which we have provided in all of our institutes have proved a real boon to the men. Thousands of letters are being sent home weekly by men who probably would not otherwise write, and that for the simple reason that in many of the camps the Y.M.C.A. is the only place where stationery and writing facilities are to be found. The gratitude expressed in the letters received from mothers, wives and sweethearts at home for thus helping to keep up the "lines of communication" would in itself make this work worth while.

The canteen is now another feature of our institutes. 'The way to a man's heart is through his stomach' is most certainly true when it refers to the British soldier on active service. We have found that by supplementing his army rations by cakes, biscuits and a few favorite stores we have been able to do a great deal to make his lot easier and to keep him fit. The hot tea has perhaps been the greatest boon which these canteens have meant for the men. 'It reminds me of home,' said one brawny Highlander. 'It's the kind me mither used to make.'

Athletics have also been a prominent feature in our work. As very few of the units out here have brought anything with them in the way of athletic equipment, the Y.M.C.A. stock

is in constant demand. Before the rains set in we were able to organize and carry out a series of football and hockey tournaments at Amara for both men and officers. Word has just now come from the G.O.C. Tigris corps asking that we send up as much equipment as possible for his men, as it is badly needed and is nowhere else available.

So far as it has been possible we have aimed to have a programme of work in each centre which would ensure something for each night of the week. The result has been that our huts have been the natural gravitating place for the men as soon as the sun begins to get low. Lectures, cinema shows, page contests, mail-night, lime-light talks, concerts, indoor game contests, and Sunday evening hymn-sings have provided us with weekly programmes which have done much to make life out of what would otherwise be mere monotonous existence. It has been our custom in each of the huts for British troops to have short evening prayers every night at closing time. Although the attendance at these is purely optional, it is very large. We have had numbers of the men come and tell us how much they appreciate this fitting close to the day's activities.

When first we opened our work in Busra it was on the understanding that we confine our work to British ranks only. Consequently, although we had several invitations from officers commanding Indian units to do something for their men, we contented ourselves with giving an occasional cinema show in the Indian hospitals and a cup of cold water to an occasional thirsty Jemadar who came to our huts. In January last the way opened up for Indian work also, and it is quite likely that before very long we shall have more men engaged in work among Indian troops than among British.

All that has been said of the need of the British troops may be repeated in the case of the Indians, with this further addition, that with his inherent love of Indian surroundings the hardships are even more severe for the Indian than for the European.

So far our work with the Indians has been confined almost entirely to the hospitals, as the need there is most certainly the greatest. That the patients feel lonely is shown plainly by the warm reception with which our men are met. As they go through the wards writing letters here, having a cheery conversation there, distributing illustrated and vernacular papers and such comforts as we are able to obtain, they receive a most cordial welcome. We have also been able to take the

cinema and the gramophone into these places, and these too have been sources of great delight.

As fast as we are able to get the men we are extending our Indian work to the camps where the "fit" men are. We have already established centres in two of the largest depots



An Indian Battalion settling into Camp on the Tigris

and are preparing for work in three more. In these places, in addition to writing letters and providing facilities for those who can write for themselves—than which it is doubtful if there is a greater service which we can render to these men—we have opened small canteens where sugar, tinned milk, cigarettes and such things can be had, organized out-door athletics, provided recreation rooms, and conducted cinema shows and tamashas without number.

Arrangements are also being made both in the hospitals and camps to conduct classes in which the Sepoys will be taught to read and write both Urdu and English. One of the secretaries, who is now with us, was in our work in France for a year. While there he taught a number of the Sepoys to read and write. He is now receiving letters from several of these men, one of whom writes from a German prison.

While the need of the men in the base camps and hospitals is very great we have felt that the needs of the men in the firing line are even greater. We have therefore always had it as our objective to open up institutions for them. So far this has not been allowed, partly because conditions have been too unsettled, and partly because of the difficulty of transport. Had it not been for this latter difficulty two of our men would have accompanied General Aylmer's force last January. Toward reaching our objective we have been able to send some of our men up on the hospital boats to serve the sick and wounded. Partly as a result of this we have come to know of the difficulty which is being experienced in distributing the war gifts which are being sent out for the troops. We have therefore got into touch with the head representatives of the Red Cross Society out here and also the officer sent out from Bombay to superintend the distribution of gifts coming from India and offered to send some of our men to the firing line to co-operate with them in the distribution. Our offer has been most heartily accepted, and four of our staff are now on their way to the front for this special work. At the same time we have received word from the G.O.C. that he has given his consent to our establishing institutions in the advance



Building an Ice Factory for Hospital

bases. We shall therefore be in a position to reach every man in the force from now on.

Were we to record all the expressions of appreciation of our work which have reached us we should need to charter the 'Young Men of India' for the next twelve months. They



A Regimental Baggage Train

are as various as they are numerous and have come from men of all ranks, Indian and British. An anxious mother in England has written to thank us for looking after her boy while in hospital. Several men of a Scotch regiment who were stopping in one of the camps where we are working, have been most grateful to us for forwarding money for them to the "wee wife" in Scotland. Quite recently a young chap just out of hospital came to us to see if we could not give him a pocket testament to replace his mother's Bible which had been lost at Ctesiphon. When we gave him one he thanked us most cordially, saying that he could now write and tell his mother that he was still keeping his promise to read a portion of Scripture daily. One day when visiting in the Indian Hospital we took with us a bottle of Eau de Cologne, and put a drop on the sleeve of each man's shirt. 'May Allah bless you,' 'May you go straight to Heaven,' 'May you soon become a colonel'; were some of the remarks we heard as we passed from cot to cot.

This appreciation has been freely felt by officers as well as men. Their co-operation in our work has left little to be desired. G.O.C.'s, O.C.'s and commandants have without exception not only welcomed our work, but helped us in every possible way. At — the G.O.C. in recognition of the value of our work had an excellent building erected for us that we might the better be able to reach more men. The G.O.C. at — has wired us, 'We shall provide quarters for your work if only you can send the men.' The commandant at — said to us only last Sunday, 'I have seen your work in Amara, and am most fully in sympathy with it. In the new camp which we are erecting at — I am planning to provide spacious accommodation for you, and I want you to come and conduct your work there as in other places. You may call on us for anything you require.' At — the O.C. of an Indian hospital, who had just seen what we had been able to do for the Indian troops at another centre, sent word to say, 'For God's sake come and open work for our men also. We shall do anything you want to help you.'

It would be impossible to convey an adequate idea of our work for the

British troops by stating the number of khaki testaments which we have distributed, nor could we sum up fully the Indian work in terms of the letters written; statistics are but the bare figures at the best. A few glimpses into the actual workings of things will help a great deal better to show their real value than any amount of figures.

It is a winter night in Amara. Outside the cold wind is driving the rain in cutting blasts. In the Y.M.C.A. it is concert night, and the big room is well lit up and decorated. Every seat is full, and standing room is at a premium. The front rows have been reserved for officers and nurses, of whom there is a large number present. Behind them the numerous grey and blue coats indicate that there is a goodly percentage of hospital patients in the audience. The programme consists of items by many of the most talented artists from among the officers and men of the garrison, so that for the time being the cares, sorrows, and sufferings which have been hanging as a cloud over all are forgotten in the pure fun and frolic of the evening's entertainment.

Again, it is evening in one of the big Indian hospitals on the edge of the desert. It has been very hot all day, and now as the sun is going down the patients are trooping out of the heated huts to get a breath of the cool evening air. They are all moving in one direction—towards the Y.M.C.A. hut. It is the usual night for the cinema show, and the screen has been put up outside. While they are waiting for the dark the gramophone with the vernacular records is pressed into service. By the time it is dark enough to begin the show nearly 1,000 patients have gathered—practically every man in the hospital who is able to hobble at all. As the pictures are shown the Indian secretary explains them in Hindustani, and the roars of laughter and shouts of 'Shabash' show that they are being understood and appreciated.

Another scene, this time on a hospital boat on the Tigris, within sound of the guns. A large number of wounded men are being brought aboard preparatory to being rushed down stream to the hospitals. Among those who are receiving them as they are brought aboard is a Y.M.C.A. secretary, who has gone up at the request of the medical authorities to render assistance. Serving the food, easing the aching limbs, altering bandages, supplying drinking water and ministering to the poor sufferers in a hundred and one ways, more than keeps him busy. He is quickly recognized by all, for all know him



British Troops crossing a Bridge in Mesopotamia

and why he is there. As he moves about the deck many a sufferer blesses him in his pain—and incidentally blesses those too, who have made it possible by their gifts for him to be there.

One more scene.

It is Sunday evening at the hut for British troops at Camp. The regular Sunday evening hymn-sing is in progress, and, as is usual, the place is packed to suffocation. Many are sitting on the ground outside and joining in the singing from there. For half an hour the old familiar hymns of home are sung, and sung well. Then follows the address—a clear-cut man-to-man appeal to find in a Heavenly Father a 'Refuge and Strength, a

very present Help in trouble.' After the address comes the closing hymn, 'Mother's Hymn,' as they call it. As you watch the faces of the singers you can see that many of them have

their eyes closed and that not a few of them appear to have lumps in their throats. There is no mistaking their sincerity nor the increased strength of purpose seen in their faces as they sing:

I fear no foe with
Thee at hand to
bless;

Ills have no weight,
and tears no bit-
terness;

Where is death's
sting? Where
grave thy vic-
tory?

I triumph still if
Thou abide with
me."



Unloading Stores on the Shutt-el-Arab

Canada's Task

BY THE HONOURABLE MARTIN BURRELL
Minister of Agriculture

THERE is a saying of George Meredith's that the secret of success is to "plod on and keep the passion fresh".

A true word. Your plodder without passion fails in great achievement. Your enthusiast fails equally without a full knowledge that the master word for us all is Work. Both qualities have gone to the making of our great universities. Their influence on the national character has not been small. But thoughtful people who have watched the trend of things during the past twenty years had begun to wonder whether the price we were paying for vast material development and success was not dangerously high. One could not fail to see that educated and instructed opinion was sorely needed in our industrial and public life. Obviously the higher educational institutions had great avenues of service before them. Would they enter them? Would their chief ideal be the turning out of scholars, and more scholars, or the moulding of character and the fashioning and fitting of men for facing helpfully the infinite problems of a democracy such as ours! Events have justified those who had faith in the universities. In the fine response made throughout the nation to the challenge of the Empire's very existence nothing has been finer than the answer of Toronto and her sister universities. The bitter warfare of the trenches, the cries of the wounded, called across the sea, and not in vain.

"God rest you, happy Gentlemen,
Who laid your good lives down,
Who took the khaki and the gun
Instead of cap and gown."

Despite its vast horrors, war, such a war, clarifies the vision and purifies the heart. Daily, hourly, facing the stark realities of life and death, character is transformed, and who can measure the depth and breadth of that stream of new in-

fluences and changed ideals which will flow into our national life when the great test is over!

When the roar of the guns is hushed and the tide of the khaki-clad rolls back to the shores of Canada, there will still be need for clear vision and stout hearts in facing and solving the problems of peace. To the unpeopled and spacious plains and valleys of Canada many faces will turn in hope. But the old reiterated cry of "back to the land" must be more than a parrot cry. Happily, for some years past that respect for tillage which, dormant or expressed, exists in most men's minds has shown itself in a large and practical way, and agriculture has meant bigger things to us all. The square peg will not here, or elsewhere, fit into the round hole. All good men will not make good farmers, but it is of vital concern to every citizen that the man who elects for the countryside shall there have a heart content with his lot.

"He represents the necessities—has grave trusts confided to him. In the great household of nature the farmer stands at the door of the breadroom and weighs to each man his loaf." To him whose labours mean so much to the State there should flow an abounding and practical sympathy and every aid that science can give.

I share the belief of many, that out of this reign of blood and terror large good will come to this nation, as it will to others who have valiantly fought through these years of stress and storm. Into education, law, commerce, agriculture and other arteries of the body politic there will surely flow a new life. The trench, the screaming shell, the clash of steel, are fitting thousands of our countrymen for the task of building a broader and a finer Canada. If their sacrifices are not fashioning us for a like task, we stamp ourselves unworthy of the name "Canadian".

Things 'ave transpired which made me learn
The size and meanin' of the game.
I did no more than others did,

I don't know where the change began;
I started as an average kid,
I finished as a thinkin' man.

KIPLING.

A Message from Prince Edward Island

By J. A. MATHIESON, *Premier*

THE people of Prince Edward Island join heartily with their fellow citizens of all the Canadian Provinces in sympathy and support for the Allied cause and in assisting the noble efforts put forth for the care and cure of the wounded and suffering at the front.

In proportion to our small numbers we have endeavoured to do our share in the great conflict. The male population of this Province is limited to 47,000 and the number of military age is, of course, but a fraction of this total. It is also to be observed that there is and has been with us no unemployment, so that every one of our recruits has had to leave some useful calling in order to offer his services to his country. Yet under these limitations over three thousand of our young men have volunteered for the war and many of them have seen active service in France and Flanders.

The dead and wounded in our casualty lists tell how worthily they have borne their part among brave comrades from all parts of Canada and the British Empire. We therefore share the just pride which all Canadians must feel in the patriotism, courage and endurance which Canadian soldiers have displayed and the lasting fame which their valour has achieved.

We also realise the great importance and value of the hospital work at the front, which has proved to be much better organized and far more efficient than the like service in any war in which the Empire has been heretofore engaged. This work must be sustained without stint of money or effort until the end of the war. I can therefore very heartily endorse the worthy objects

which The Varsity has in view in issuing its Magazine Supplement.



Government Headquarters, Charlottetown



Farming along N. River, Prince Edward Island

The Divine Irony

BY PROFESSOR MAURICE HUTTON

WAR like love, like religion—with both of which it has many affinities—makes all things new again.

This war has made new again everything Greek, everything which belongs to that youthful and ever new civilization of ancient Greece; this war which is but a new version of the old struggle of Athens against Sparta, of liberty against discipline, of human nature against organization, of life and joy and faith and hope against system and preparedness and paternal government.

But in particular it has revived again the speculations of the Athenian dramatists about the Divine Irony: the Irony which seems to laugh at human endeavour and human science, after encouraging man just to the point where he has conceived the hope that he can replace the gods and govern the world by his own science or his own organisations without any further help from them.

Sophocles has conceived the Irony of Athena or other gods as encouraging Ajax to trust in his own strength till it becomes his own undoing; as encouraging Creon and Antigone to trust to their own political or social principles till they become their overthrow.

Thucydides has conceived the Divine Irony as encouraging Athens to dream dreams of Empire so vast, that the dreams and not her previous enemies lead to her downfall.

It is difficult to-day looking back on the Canada of the first fourteen years of the twentieth century not to imagine the same play of this Divine Irony. We were, all of us on this continent, and thousands even millions of men in Europe so cocksure of peace and humanitarianism and materialism and social betterment; we were all sure that the profession of arms was an anachronism; that never again would great Britain plunge into a continental war, that nothing would divert her again from her peaceful study of the social question; that war was not only dead but damned; we were all dominated by Americanism, by pacifism and optimism whether we kicked against its pricks or welcomed them. And in a fortnight in August 1914, the whole fool's paradise fell to pieces, the whole vision melted into the unsubstantial pageants of a dream; and young Canadians, the very essence of the American spirit, the Americans of the Americans, were enlisting for the front, and were forswearing their holidays, many of them for ever.

I remember a little episode, typical of much, which passed on the University lawn a few weeks later in October.

Our young men were drilling; most of them without arms; there came by a squad carrying rifles. "Ah" said a nursemaid, standing with her charge near me "here come the boys with guns: that's what baby likes".

"Exactly," I thought to myself; "that's what we have all been saying or thinking at least, that's what baby likes, and baby only".

The Divine Irony had smiled on our pacifism; fed it, encouraged it, till we were certain of it; and then in a moment taken it all away and left us with a sense only of our utter blindness and our inordinate capacity of self deception.

But this illustration of the Divine Irony though convincing enough and overmastering is obvious and trite; are there not others more subtle, less obvious but equally significant?

How much of all our science is provocative of similar misgivings? how much of it leaves behind the same feeling of the vanity of our efforts and the worthlessness or worse of our intelligence. It is not merely that in all ages our sciences have been sciences "falsely so-called"; it is not merely that we have fooled ourselves in all ages with their imaginations, more vain than simple ignorance and silence; with sciences like astrology, palmistry, alchemy, which suggest that the gods have given us half a mind, that we might play tricks with it for their amusement and our own disappointment;

but beyond this, in this business of war in particular, is not our science a mockery and worse?

In the pride of his intellect man invents and invents, and his inventions even when most successful, and most of all when most successful, are his greatest failure; he has invented poisonous gas and dynamite, and the submarine, and the big gun, and the net result is only desolation material and spiritual; the net result is only to reduce the weight in war of all the factors of war that are best for him; only to give more victories to the immoral factors and forces and to handicap the moral.

Twenty-five hundred years ago when the first artillery of slings was invented "*ἀπώλετο ἀνδρὸς ἀρετή*" said a Greek humanist: "courage no more counts"; it was not true fortunately, it is not true even yet; but it is more true every year than it was then, and our science seems only an ironical gift: for which we can draw, if any consolation only this dubious consolation that perhaps at last our science will succeed in doing more than the pacifists and the preachers will ever do; will render war impossible, not because it is wicked or un-Christian, but because it will become too awful, too dangerous even for adventurous and scientific soldiers.

Everyone has heard the story—true or not—of the first Lord Dundonald, of the original Cochrane; how he invented some engine or instrument of war during the Napoleonic crisis, so awful that the British government hushed it up and refused to employ it. Would they refuse it now? it is quite likely; but Germany certainly would not; her scientific spirit would welcome it gladly, and would use it without scruple and without fear of the Divine displeasure, without fear lest the Divine Irony should tempt her by its apparent success, to some further and final illustration of the worthlessness of human science and human preparedness, and human plans to conquer the world.

Is the conception of such Irony too pagan? is it not rather consonant with all we know of history? Man is endowed with powers over Nature, with an intelligence limited only by his own moral scruples; the truth is that he is not content so to limit it, that he uses it for power only, that he uses the will to power over nature and his fellow men without regard to anything but power, that he seems to regard himself as irresponsible for the use of his intelligence; even at the same moment when he holds himself responsible for his ordinary and his sensuous actions; that he puts away from him entirely as mediaeval superstition, the idea that the use of intelligence for some kinds of power over nature and man may be unlawful, even devilish.

Our mediaeval ancestors believed in the possibility of powers over nature which men only acquired by the sale of the soul to the Devil; because we reject the framework, we have rejected even the idea; but is not the idea sound enough, that some kinds of power do more harm than good not only to other men but to their possessors themselves? and if it be so how is a free agent like man to learn the truth except by the bitter experience which comes of the use of such power? And how does he learn the lesson except when the use of such power ends in bitterness and disillusionment? The Divine Irony is only another term after all then for the Divine Providence which overrules the evil uses of Power, or the uses of evil Power, until man sees that its end is mockery and that he is responsible for his brains, no less than for his instincts and appetites, and can use them to no purpose effectually and finally, unless it be to a good purpose.

God helps those who help themselves and even if they help themselves wrongly he helps them still, until in the end by granting their misdirected prayers, and giving them the success they have desired, he opens their eyes to the worthlessness of it all and its final failure. He is an Ironical God to such men; but is He any the less the God of that religion of Christianity, which is based on man's liberty even to misuse

his liberty and his intelligence, until the misuse shall convict him, in his own eyes even, for a fool, by ending in vanity and vexation of spirit and colossal overthrow?

The war may well end in self-denying ordinances to forego voluntarily some of the most characteristic modern triumphs of human ingenuity and human science; the asceticism of the body, the keeping under of the pride of the flesh is an old and familiar thought; the more subtle and more necessary asceti-

cism after this war is over will be the asceticism of the intellect, the keeping under of the pride of the spirit. Why should the intellect any more than the body be indulged, except to honest purposes? The intellect has its excesses no less than the body; but the law of good or God dominates all life, mental not less than physical. The characteristic sins of our age are intellectual rather than physical; they are not less evil because they are more subtle and more spiritual.

The University of Toronto Overseas Training Company

BY CAPTAIN M. W. WALLACE

I HAVE been asked to write a brief article for the "Varsity Supplement" which will give some idea of the character of the Overseas Training Company. Toward the close of the academic year 1915-1916 it seemed desirable that the work of the C.O.T.C. should not be allowed to lapse entirely with the close of the university session, and authority was sought and obtained "to organize an Overseas Training Company composed of members of Toronto University and others of equivalent qualifications . . . on the understanding that the Company is to be organized strictly on an overseas basis with regard to enlistment, obligations and pay, and that if the exigencies of the service so require, it will be liable to furnish drafts". This authority was granted on March 21, and on the same date Capt. G. H. Needler of A Co. C.O.T.C. (Head of the German Department) was appointed Officer Commanding and Capt. M. W. Wallace of B Co. C.O.T.C. (Professor of English Literature), second in command. Three subalterns—all undergraduates of the University and officers of the C.O.T.C.—were appointed shortly afterward—Mr. H. A. C. Breuls and Mr. L. R. Shobottom on March 25th and Mr. H. W. Reid on April 4th. The following sergeants were also appointed: Sergeant-Major—A. L. Huether, B.A. (Victoria), 3rd Year Medicine, an officer of the C.O.T.C.; Quartermaster-Sergeant—G. W. Kaiser, B.A. (Victoria); Sergeant T. H. Jameson, B.A. (Univ. Coll.); Sergeant J. P. S. Nethercott, B.A. (Victoria), an officer of the C.O.T.C.; Sergeant H. W. M. Cumming, 3rd year Univ. Coll.; Sergeant T. G. W. Ashbourne, B.A. (Victoria); Sergeant H. D. Anger, B.A. (Univ. Coll.), graduate of Osgoode Hall. All of the non-commissioned officers—seven sergeants, five corporals and five lance-corporals are qualified as lieutenants.

In June the Company went into barracks in the men's residences of Victoria College where they are still quartered. The training covers the work prescribed for lieutenants' examinations—an hour of physical drill daily, squad, platoon,

and company drill, extended order work, musketry, bayonet-fighting, signalling, and guards and sentries. Much stress is laid on mutual instruction. Three or four lectures are given each week on the theoretical part of the work. A Field Day is held once each week when the whole company goes to the country—occasionally on a route march of fifteen to eighteen miles or more frequently for tactical exercises at Cedarvale or Leaside, where work is carried on in distance-judging and visual training, advanced guards, outposts, company in attack, etc.

During the summer from fifteen to twenty men have usually been absent from the company attending special courses at Camp Borden, in musketry, machine gun work, bayonet-fighting and physical training, bombing, and scouting or

writing on the lieutenant's examination at the School of Infantry. A large proportion—nearly half of those who have joined the company in recent months have been qualified officers who have come in for further training. University men have come from all parts of Canada and the United States and have found a pleasant introduction to military life in a university unit. The following statistics will give some indication of the scope of the company's



University of Toronto Overseas Training Company

work. Our present strength (Sept. 19) is ninety-six. Thirty-three men have gone to England as candidates for commissions in the British army. Seven have received appointments in Canadian Battalions as lieutenants and two as Sergeants. Three men have been discharged as medically unfit and one to join the Naval Air Service. Four, a bugler, drummer, batman and cook, have been transferred to other units.

Of those who are, or have been, on our strength fifty-five are qualified lieutenants, thirty-two are qualified in musketry, nine in bayonet-fighting and physical training, nine in bombing, two in machine gun work and one in scouting.

The chief function of the company would seem to be the providing of candidates for commissions in the British army. Arrangements are being made at present to send another group of twenty-five or thirty men in the near future.

Is America Generous? A War Relief Analysis

HOW much have the people of the United States given for the aid of the afflicted peoples of Europe throughout the two years of the war? Call it forty millions of dollars in cash and supplies. That is an estimate based on the two-year totals of the chief bureaus and commissions of relief throughout this country, with a big guess-work allowance added for unrecorded individual offerings and the collections made by hundreds of minor organizations, many of which are practically negligible factors.

Have we done enough? Not if the giving is to be measured by the need. By that standard the measure of American generosity and sympathy is short by many millions.

America is not feeding Belgium, as so many of us seem to think. We have contributed about one-tenth of the total sum that has been needed to give to each civilian Belgian—man, woman, and child—one-third as much food per day as is considered necessary for a soldier. France and England have contributed the other nine-tenths. If America had given thirty times as much to this one fund as she has given, the familiar expression, "America is feeding Belgium," would be based on fact instead of on a superstition, the reiteration of which has given a sort of emotional satisfaction even to those of us who have not contributed anything to any fund.

And our giving to the Belgians is the high-water mark of American generosity so far. Our Belgian total is almost twice as great as that of any other single fund.

"We have not sent enough to provide any one of them with a square meal; just enough to stave off death from starvation," says Felix M. Warburg, Chairman and Treasurer of the Joint Distribution Committee handling all the Jewish relief contributions of the three big Jewish war fund organizations. The total of these Jewish funds to date is \$5,580,396. That is the second largest amount raised in this country.

"What we have done in the United States is only a drop in the bucket," says Clyde A. Pratt, Executive Secretary of the War Relief Clearing House for France and Her Allies, an organization with headquarters in this city through which more than 5,000 organizations, firms, and individuals are shipping their contributions. The contributions thus sent through the clearing house so far amount to \$2,750,000. That includes \$625,000 in cash and 36,000 cases, of about 9,000 tons, of supplies purchased for \$2,125,000.

"Poland needs \$20,000,000 immediately merely for the housing of the millions of starving people who have been driven from 20,000 villages and 200 towns that no longer exist," says W. O. Gorski of the National American Committee of the Polish Victims' Relief Fund. But American contributions to the Polish funds have been less than a million.

"In spite of all that has been done the amount to be done is enormous," says Mrs. W. K. Draper of the New York Chapter of the American Red Cross, who has supervised the shipping from this port of \$1,330,703 worth of supplies. The total of the American Red Cross in supplies, cash, and medical service value has been \$3,395,649.

And so you can go on through the entire list of organizations, and all their leaders know that they are not doing enough. They know that the number of people in this country who have given nothing greatly exceeds those who have given something.

Has the United States done its share, as compared with what other countries have done?

Our gifts to the Belgians have been at the rate of ten cents per capita for our entire population of one hundred million people. The people of New Zealand have given to the Belgians at the rate of one dollar and a quarter per capita. New Zealand is at war herself. The proportionate giving of Brazil, Argentina, and other South American countries to the Belgian fund is reported as greater than ours.

Miss Fannie Hastings of the Serbian Relief Commission at 70 Fifth Avenue, this city, was in Australia at the beginning of the war. Before she left there that country had raised and equipped and sent to England twenty thousand troops, and had added five war vessels, manned and equipped at Australia's expense, to the British Navy. But, also, in those early costly days of getting ready to do her part in the war Australia started a relief fund for Belgium, and when Miss Hastings left Australia that fund was much larger than the American Belgian fund was three weeks later, when she arrived in San Francisco.

Paderewski gave a series of concerts in this country for the benefit of the Polish Victims' Relief Fund. The proceeds of the New York concert were \$22,000; of the Chicago concert \$37,000. Melba sang in Melbourne for the same fund and took in \$68,000 for the Poles at one concert.

The Polish Relief organization in this country, of which Paderewski is the head, has received \$406,410 in two years. New Zealand has contributed \$350,000 in response to the appeals of Paderewski in the last year. The population of the United States, one hundred millions all told, includes four million Poles. The total population of New Zealand is less than two millions, and there are, practically, no Poles there. Perhaps New Zealand is the Abou ben Adhem of the world's countries.

Contributions to the Serbian Fund in the United States have amounted to a trifle over \$200,000. The people of France have given twice as much for Serbia. The English people have sent about eight million dollars to Serbia for the relief of the starving and homeless.

Incidentally, the French and English Governments, between them, have sent ninety million dollars to the Commission for the Relief of Belgium in this country, to be expended here, along with the ten millions contributed by ourselves for supplies. But that is a Government matter, and we are trying now to get at some measure of the sympathy and generosity of individuals in the United States.

Now, entirely aside from what other countries are doing and not doing, is America giving in accordance with her means? That, too, is a matter of opinion. There are those who believe that neutrals should not take care of the helpless victims of belligerents, because by so doing they minimize the horrors of war and thus make future wars more probable. It is a hard theory to stick to in face of the reports from abroad, the reports from Poland, for example, where the population has been reduced from thirty-four to twenty millions in two years; most of the fourteen million dead in that one gashed country have died of starvation. There are no babies left in Poland.

But to return to the proportion of American giving to American means. The foreign trade of the United States for the two years of the war has amounted to nearly eleven billions of dollars (\$10,941,975,000.) It was \$6,525,000,000 in the fiscal year just ending, and \$4,416,975,000 in the first year of the war. Most of this trade, which breaks all records of all countries, was, of course, with Europe. Its total volume is 275 times as great as the amount we have contributed to the relief of suffering in Europe. Our exports for the two war years have been over \$7,000,000,000, and, of course, a vast amount of that represents our sales of munitions of war. Our bill to foreign countries for explosives alone in the two years has been \$514,000,000, about thirteen times as much as we have given for the relief of the many millions of non-combatant men, women, and children whose lives have been devastated by the use of those same explosives. One corporation alone, United States Steel, has earned in the first six months of this year over \$140,000,000 net profits, more than three times as much as we have given to war relief in

two years, the two most prosperous years in the history of this country.

Now, to drop from the billions of foreign trade to the millions of foreign aid, the following figures afford the most accurate summing up of the main war relief activities of the United States for two years that has yet been made:

Belgian Relief	\$10,000,000
Germany and her allies.....	6,000,000
Jewish War Relief (all funds).....	5,580,000
American Red Cross.....	3,395,649
Rockefeller Foundation.....	3,159,985
War Relief Clearing House.....	2,750,000
Committee of Mercy.....	1,512,000
Armenia and Syria.....	1,025,000
Polish Relief (two main funds).....	800,000
American Ambulance Corps.....	800,000
Federation of Churches.....	500,000
Serbian Relief Commission.....	210,000
Secours National	200,000
Albanian Relief.....	37,000
Total.....	\$35,969,634

But even with this attempt at getting something like accuracy, allowance must be made for overlapping and duplicating of accounts. For example, in the Rockefeller Foundation total is included an item of \$200,000 contributed to the Belgian Commission and also appearing in its total of \$10,000,000. Another \$175,000 of the Rockefeller credit is included in the Red Cross total. Thirty thousand of the Serbian account is duplicated in the Red Cross. And much of the million and a half of the Committee of Mercy shows elsewhere. So these sums, plus a few minor duplicate cash items, should be subtracted from the total for the purpose of correction. And the discrepancy is greater in the matter of supplies, for a large amount of Red Cross contributions in food, clothing, and medical supplies has been shipped through the War Relief Clearing House and listed a second time on its books. So two millions, all told, is not too much to subtract from the above total, leaving \$34,000,000 to the credit of the chief relief agencies in the United States for the entire two-year period of the war.

The addition of six millions to cover all other contributions and make a total of forty millions, is, as already said, a matter of guesswork. The guess is too big rather than too small. However, you cannot gauge the generosity of the entire country by the books of the commissions any more than you can measure all the charity of a local community by the annual reports of the philanthropic societies in that community.

"I think your total is too large," said Mr. Pratt of the War Relief Clearing House. "But your figures are the nearest approach to accuracy that we have had, and nobody is in a position to confirm or deny them."

The whole case for the United States is not presented in the figures. There are hundreds of men and women doing wonderful work in the various commissions for little or no compensation. The statements in dollars and cents of the supplies shipped abroad do not give the market value of those goods because a very large proportion of them have been obtained at cost prices or less, so that each dollar given by the United States has gone much further than it would have in ordinary trade. In this way many merchants and manufacturers have helped sufferers abroad without putting their names down against any specific contributions. Transportation interests and owners of office buildings have helped, too, by reducing charges and rents.

The New York Chapter of the American Red Cross, for instance, has free quarters in the Russell Sage Foundation in East Twenty-second Street. It pays no rent for its work-rooms at 411 Fifth Avenue and at Broadway and Seventy-sixth Street. Furthermore, the Red Cross and other organizations engaged in the same work have great areas of warehouse space at the Bush Terminal, whence they ship supplies abroad without having to pay any rental whatever. The American Ambulance Corps, which has spent a thousand dollars a day ever since the war began to maintain its five field hospitals in France and its hospital in Paris, has been

able to spend on its work of rescue practically all it has received. Many of those who are serving it are working without compensation, and its American headquarters at 14 Wall Street are rent free.

To pick out just one of the many items of this American ambulance service, it has so far transported more than 150,000 wounded.

The War Relief Clearing House for France and her allies with executive offices at 40 Wall Street in charge of Clyde A. Pratt, is, indeed, a clearing house on a tremendous scale, the central agency by which 5,000 schools, churches, clubs, lodges, and many individuals have been sending their contributions for war sufferers since March of 1915. By May of that year it was necessary to open a big warehouse at 133 Charlton Street; this city, in which to receive and pack the goods. Since then the Clearing House has shipped 36,000 cases, or about 9,000 tons, valued at something over \$2,000,000. All of this material has been transported to France on the ships of the French line without any freight charges whatever. It has been received on the other side without customs duties, and then transhipped by rail to all parts of France and Italy, free of cost.

One of the most useful services performed by the Clearing House is in doing the purchasing for contributors, who do not know where to buy to the best advantage. For example, they are getting yarn for refugee women at 71 cents a pound, which would cost the ordinary purchaser \$1.10. They are getting good shoes for men at \$1.15 a pair, and for boys at 65 cents a pair.

Amounts received by the Clearing House have ranged all the way from a dime up to \$40,000 in single contributions. Unevenness of this sort in size of gifts is, of course, reported by all the relief organizations.

There is a young man who steals into the Clearing House offices very quietly about once a month, hands Mr. Pratt a \$20 bill, and goes out. His name is not known. A woman in Oregon sent on her diamond engagement ring, which Mr. Pratt sold at the Allied Bazaar for \$60. Somebody else sent in 1,500 francs in old French, Italian and Belgian coin, of the Napoleonic period.

There is one deaf old lady who invested her money in an early French war loan to help France. Whenever she receives her interest she takes that to the Clearing House to help the French.

That reminds me of the story of another old lady, who went to the Serbian Relief Commission at 70 Fifth Avenue and told Miss Hastings that she had three nightgowns which she wanted to send to the suffering people in Europe. But first she wanted to know how her contribution would get there, so Miss Hastings told her all about the methods of relief, whereupon the old lady disclosed three \$1,000 bills, which she had kept hidden beneath her shopping bag, and handed one of them to Miss Hastings for Serbia. From there she went to the Armenian Relief in the same building, again indulged herself in the little fiction of the nightgowns, and left a second thousand dollars. Beyond that she was not traced, but there is no doubt that some third fund was enriched by \$1,000 that afternoon, and this giver is known only as "The Old Lady of the Nightgowns."

A brief chronological record of the work of the Serbian Relief is significant of how things have gone from bad to worse in Europe. The first money cabled by this commission to Serbia very early in the war was \$20,000 for seed grain, and \$5,000 for farm implements. This was after the first invasion of the country, when a comparatively small section in northern Serbia was devastated, and the need was for seed and farm tools to enable the people to rehabilitate themselves. The latest contribution sent by this commission to Serbia was \$40,000, not for seed grain, but for corn to feed people who were starving and far beyond any hope of helping themselves. Between the days of seed, and the days of horrible need, the Serbian Commission has had to be various different kinds of an agency. Last year, for example, it had to turn its attention to orphans, of whom Serbia had more than 20,000, as a result of the typhus plague alone. After that the com-

mission had to finance the transportation of Serbian refugees out of Albania. Since then it has undertaken to establish hospitals for these people on the Island of Corsica.

The Joint Distribution Committee for Jewish War Sufferers, which has received more than \$5,500,000, has canvassed the entire United States in a most systematic manner. Through the subsidiary organizations, the American Jewish Relief Committee, the Central Relief Committee, and the People's Relief Committee, it has collected the offerings of the reformed Jews, of the orthodox congregations, and made, in addition, a house-to-house canvass.

If horror is a factor, no country makes a stronger appeal than Poland, where nearly half of a before-the-war population of 34,000,000 has been wiped out, partly in battle, but mostly by starvation in a country literally gashed to death, a country that is childless, treeless, and houseless; a country, in large parts of which the very top soil has been so frittered away by shell that nothing can be grown.

"There are no more children under seven years of age in Poland, all dead of starvation," said Mr. Gorski, at the Polish Victims' Relief Fund headquarters, 33 West Forty-second Street. "In the district of Gorlice alone, where battle raged for eighteen months, 1,500,000 of noncombatants caught between the lines perished from hunger and disease. An American who has just returned from Poland, where he has been investigating conditions in behalf of relief work, has reported to us that, having occasion to travel on the main road from Warsaw to Pinsk, about 150 miles, he noticed that the ground was littered with civilian garments and cradles—400,000 human beings must have dropped dead along that road. The retreating army had burned their homes, and compelled them to evacuate the land. There had been no time to bury those who fell by the wayside. Birds of prey and wild animals had cleaned the bones, and the incoming invaders gathered those human bones and sent them back to be used as fertilizer in their own country."

We hear a good deal now about the diplomatic difficulties in the way of helping Poland, and of President Wilson's so-far futile efforts to get England and Germany to agree upon some plan by which food supplies may be sent from this country to Poland. Germany blames England and declares that the latter country will not let such supplies through the blockade. England blames Germany and declares that such goods would be allowed to go through if Germany would guarantee that none of the relief supplies would be used by the German armies in the territory. So there is a deadlock, and in the meantime Poles are starving to death by thousands every day.

Still there is a way that the American people can help Poland in spite of diplomatic complications. There is a food supply in that country at the present moment, in the hands of the German Import Company, which will sell to the Poles or anybody else who has the price. The price is regulated by General von Hindenburg, and it is seven times the normal cost of food. Von Hindenburg calls this price a military necessity. Of course no Pole can pay it. But Americans could help if they would, by paying and distributing food in Poland. There is no difficulty in getting money into Poland. Paderewski's National American Committee for Polish Relief and a similar organization in Chicago are sending funds as

fast as collected, through their agencies in Switzerland, and all this money goes to its destination without delay or hindrance.

But so far in the two years of war the per capita American contribution to these two Polish funds has been only eight-tenths of a cent. Under the circumstances there may be some who would believe that the responsibility of the British and German Governments for starvation in Poland should be shared by the Americans who have not yet contributed their eight mills apiece.

Belgium, which, under normal conditions, can produce only one-fifth of her food, now, of course, produces practically nothing, and her people, together with the people in that part of Northern France occupied by the Germans, are being cared for by the greatest charity enterprise in the history of the world, the Commission for Relief in Belgium. In this country the commission, with its headquarters at 120 Broadway, New York, has complete subsidiary organizations in thirty-five States, and many of these are sub-divided into town and county organizations. For its work so far it has had under charter 232 ships, ranging from 3,500 to 9,000 tons, flying the banner of the commission, and all guaranteed absolutely safe passage by all belligerents. There have been many dimes sent to this commission. The largest single contribution so far has been \$200,000. The aggregate received from people of the United States, as already said, has been \$10,000,000, or a little more, and to that has been added the \$90,000,000 from France and England, to be spent for supplies here. And still the need of Belgium and Northern France is far from being met.

A great deal of money has been spent in this country for the Russians, through the Russian Red Cross, or American Commission of The All Russian Zemsky Union, with headquarters at 210 West Forty-fourth Street, but practically all this money has been sent here from Russia. Very little of it has been contributed by Americans.

The bulk of the contributions for Italy has been sent through the American Red Cross and the Clearing House for War Relief, free transportation being granted not only on the French ships, as already noted, but on vessels of British and Italian lines.

The New York delegates to the German Red Cross, with headquarters at 1,123 Broadway, have American contributions amounting to \$3,000,000 listed on their books. They estimate that the total contributions in the United States, made for the relief in Germany and her allies, Austria, Bulgaria, and Turkey, amount to \$6,000,000.

As the American Red Cross is a national organization, trying to meet many needs here and in Mexico as well as abroad, it may be interesting to give a brief analysis of its total of \$3,395,649, which it has contributed in cash and supplies and medical service for European war relief. Its cash remittances have been \$604,646.10. The cost of maintaining and equipping 300 surgeons and nurses in Europe during the first year of the war was \$1,460,306. The value of the supplies which it has shipped to the Allied Powers, the Central Powers, and other countries affected by the war has been \$1,330,703.

(By courtesy of "The New York Times")



A Canadian Mining Scene

University Men and the War

BY ROLAND G. USHER

Author of "Pan Germanism" and "The Challenge of the Future"

THOSE of us in the United States who sympathize with the cause of the Allies have seen with emotion and admiration the magnificent response of Canadian college men to their country's call. The boast of the

Pan-Germans has been disproved. Their forebodings of disension, disloyalty, and disaster are shown to be based on misinformation. They felt sure that Canada would not support Great Britain, that the Canadians looked upon themselves as a separate nationality and not as British, largely because of the lack of racial unity, and because of the great part which the French Canadians have always played in Canadian politics and the strategic position they occupy on the St. Lawrence River.

Thus, concluded the Germans, the very heart of the dominion hated England without having preserved its love of France. They would be anti-British.

They also viewed with suspicion the economic interests of Canada and concluded them at variance with those of the British Empire. In the tariff controversies they saw the seeds of disloyalty, and in the ministerial crises, sedition. The bond between the mother country and Canada they considered too tenuous, too frail to bear the slightest strain in even peaceful times, and certain to snap in the crisis of a world war which would bring promptly into relief the tremendous obligation Canada was assuming compared to the tangible benefits she could possibly receive from the continuance of imperial connection. They were satisfied that Canada was an independent nation too strong to be conquered by Great Britain, too independent to be ruled from London, too proud to join the United States,—merely one part of that illogical and incoherent jumble euphemistically termed an empire.

But they were wrong; despite the tariff squabbles, despite the racial origin of the population of Montreal, the Canadians are British, and "the thin red line" of English blood, the

impalpable bond of tradition, was sufficient to hold together in unity and loyalty two great countries, both independent but inseparable parts of the British Empire. Canada and Britain. It is this tradition of English life, this tradition of British institutions which the University men of Canada

have done so much to create and to keep alive. It has been their mission to make Canada nationally strong and highly intelligent; to make the young bear of North America which the Cabots depicted on the first maps a sturdy and capable aid to the British lion.

Nations are not made with hands nor do they yet live in houses. Still less are they circumscribed by geographical limitations, or separated by oceans. A nation

exists only in the spiritual consciousness of a great people. It is not made by the adoption of a constitution nor by obedience to law. Its existence is not manifested by conventions or legislatures. It is a spiritual bond between individuals and does not exist solely in the physical, economic, or political factors which commonly make clear its existence and facilitate its expression. These are the dross. The

entity itself is spiritual and neither physical nor political.

A nation consists literally of the spiritual consciousness of a great people and of the ideals, aspirations, hopes, and fears which they have in common. It exists when its constituent parts feel and think in unison. Once the psychological factors are realities, no separation in space can intervene to destroy this national consciousness or this imperial bond. Such a spiritual entity made of

different physical parts the British Empire has shown itself to be. Canada, independent, self-sufficing, strong in her own sturdy youth, none-the-less recognizes her oneness with the other great elements of the British Empire. Never a subject she is always an equal. This persistence of the spiritual bond despite the separation of three thousand miles of water



"Varsity" in Training



Toronto Armouries

is a wonderful thing; a manifestation of the greatest and most remarkable force which the world contains; a proof of the existence of the living God. Over and over again the war has demonstrated a truth of Kipling's ringing question: "what do they know of England who only England know?"

Nearly three-fourths of a century ago Thomas Carlyle said in an essay: "the proper epic of the world is not now arms and the man; how much less shirt-frills and the man; no, it is now tools and the man. That henceforth to all time is now our epic". He had in mind the great significance of machinery, invention, modern science, for whose dissemination the great universities now so effectively stand. He may also have had in mind the subtler fact that in the new world

that he saw dawning, man was to be ranked by his use of his opportunities rather than by the arms or clothes which stood for the social rank into which he was born. Man's tools are of course physical but they are much more spiritual—his education and mental training. These are the tools which the university forges and these are those needed to uphold large enterprises in moments of great peril. It is the university man, the man equipped with tools, who must lead on others in the great Anglo-Saxon struggle for the liberty and development of the individual. It is from the university that the trained men must come upon whose shoulders the burdens of the future and the hope of the race must rest.

Vacation Conversations

BY A. H. YOUNG, M.A., D.C.L.

THANK God for the schools and colleges," wrote a graduate of University College who was also an "Old Boy" of Upper Canada College. He had just given up a lucrative law practice to take a commission, with which was connected the adjutancy of his battalion. And since that he has left wife and children and home to go over seas.

Evidently he felt that in the schools and colleges the things which count for most in life—and death—are appreciated at something of their full value; that to this fact is due the large number of enlistments and of commissions from among the undergraduates, graduates, and other alumni of all of the universities of Canada; that because of this, most of the colleges and universities, not forgetting the residential schools, are half, or more than half, empty—their residences turned into barracks and military schools and their cricket creases and football fields trampled into hardness by the feet of men preparing for the trenches and the field of battle.

"If ——— had not been a residential college," said an Eastern President in the early summer, "we should not have lost so many men." With him agreed a Toronto "Head of a House," thinking not only of the men who, instead of being in attendance upon lectures, are on active service, but of those too whose service is over. Yet all the parties to the conversation agreed that they would not have it otherwise than it is, that they would feel ashamed if their residences and their classrooms were crowded with men. "They talk it over among themselves and they come to the conclusion that there is nothing else for them to do but offer themselves." There has been no compulsion from those in authority, as some parents have thought, but the men cannot but go to the work prepared for their generation.

A second "Head of a House" in Toronto, when asked by a canvasser to give his paper an advertising contract, refused on the ground that, though he would not decline to take in any students who presented themselves, this was not a time to try to draw them away from their manifest duty, if they were physically fit. For that reply he has been criticized, the critics holding that, in the face of the indifference that still prevails in regard to the struggle, every effort should be made to bring young men into spheres of influence in which strong views are held as to the need for every available man to join the colours.

Only a fortnight ago a graduate of this University who has recently joined a battery maintained that this is not Canada's affair, but England's, that we are fighting in aid of her cause, not for our own. If that can be said by an educated man in uniform after two years of war, what may be expected from other men? Surely the critics are right and further campaigns of education are necessary in order to

make all men see that it is no "little England" fight, but the Empire's, humanity's, and civilization's. In this sense there is abundance of force in the parting remark of another President from the Maritime Provinces, whether he meant it to be taken in that sense or not; "I am going home to look for students." Yes! Look for them, find them, bring them in, even for a few months or for a few weeks, and let them learn from their fellows who know it, but who are prevented by physical defects, or by other duties, from fitting themselves in, what is the duty of the new generation.

And what of the Colleges and Universities themselves? How shall they "carry on," with depleted revenues, for the benefit of the men who, for good cause, cannot go to the war and for that of the women? Shall their work be crippled for lack of funds and lack of teaching power? Not if Boards of Governors and Governments rise to the occasion. In this connection there is point in the sarcasm of a Nova Scotian professor, to which he gave utterance at the expense of the Canadian Parliament when it voted the relief to the railways at the close of the last session. It is true, as he said, that, if the Houses were to vote one tenth of the amount to the institutions of higher education throughout the Dominion, it would make the greatest possible difference in the carrying on of their work during the war. And are not Colleges and Universities, even as recruiting depots, of as much account as railways and as necessary as they to the well-being of the people?

As for the Universities and Colleges, what are they doing to prepare themselves for the work of the new Canada and the new Empire that are to be after the war? From the trenches and the rest camps, from men who have looked death in the face, we hear of new views of religion and morals and politics and social relations. What are we going to offer them when they return from the war? It will have to be something better than was set before a congregation of intelligent people in a university town a few weeks since by a Reverend Professor who preaching on "God in History," said that it was proper to take such a subject for consideration in Church, though it would hardly do in a lecture-room.

In this whole question of the new education it is well to remember the old parable of the new wine and the old wine-skins. The returning soldiers will be the new wine and the Universities and Colleges may find themselves serving in the other capacity. Therefore it behoves them to look to themselves betimes, rather than expend valuable breath and copious ink in congratulating themselves on the "splendid spirit" shown by their hundreds and thousands of men who have responded to the Empire's call. Of those hundreds and those thousands, we who stay at home have to be worthy.

The Social-Democratic Party in Germany

BY PROFESSOR J. GIBSON HUME

THE Social-democratic party in Germany represents the labour party and its adherents in the lower or elective house in the German system of government, the so-called Reichstag.

The Social-democrat sympathizes more or less with every effort towards democracy in other countries, especially in so far as these efforts tend to the benefit of the working classes. As a socialist however, he is not quite in agreement with some of the methods of agitators in other countries. He is, on principle, opposed to violent measures or revolution, he relies upon constructive evolution. In his respect for government as such and his desire for the extension of the sphere of government activities, he is in considerable harmony with democratic movements in France, in Great Britain and in the United States. There is, however, a notable difference between the problem that confronts him and that before the British democrat. The Briton, through many centuries of slow, painful and often costly struggle, has at last succeeded in securing a very large share in the "control of the government" by the people, through their responsible representatives, but in Great Britain there is but a very limited amount of "government control" or collective management of industries. It is exactly the reverse of this in Germany. By the historical upheaval and reconstruction in quite recent times, there has resulted a very highly organized centralized government, with a very wide measure of "government control" of industries. The complex system of railways built as much for war as for peace are entirely controlled and managed by the government, as well as certain other large industries. The mystery of the excessive development of the dye industry is now solved, it was its direct contribution to the production of high explosives. We may then say that in Germany there is a very great deal of what is called "government control", but alas for democracy and its hopes; there is exceedingly little "control of government"—that is quite a different story, and the social democrat is the only one in Germany who seems to have discovered this very great defect, and he has striven earnestly and bravely to remedy it.

Bismarck was chiefly responsible for the highly organized, centralized power, of the German government system, and its serious lack in responsibility to the governed. Whereas, in Great Britain, the lower elected house really controls the higher hereditary or nominated house; in Germany the order is just reversed. The higher or upper house, the house representing the militaristic, aristocratic and capitalistic classes completely dominates the lower elected body. While the House of Commons in Great Britain controls the money and the voting of supplies, and thus controls the army by its control of its support; in Germany the money for the upkeep of the army cannot be dealt with or touched by the lower house. It is a fixed charge, or rather it is always being pushed up, but never allowed to recede, and the army thus provided for is under the control of the Emperor. Furthermore, the power of the Emperor in all kinds of legislation is secured by the organization of the upper house. It consists of fifty-eight members, but of these, twenty are representing one of the twenty-five divisions of Germany. This one division that has twenty members to its credit is, of course, Prussia. These twenty worthies only need to get ten votes from the remaining twenty-four divisions and the majority is secured. If there is any difficulty in this there is still another device, the Prussian coterie can veto other proposals. The Prussian group is entirely under the control of the emperor, so it is well designed in the interests of efficiency!

The Reichstag, or lower house, is composed of very many parties or groups, but there is no such thing as party government or party responsibility in that sense. The several groups may variously combine. In the long run the chief function of the lower house is to debate, to talk,—not to act.

Nevertheless, even this is a very important function in a country where the press is so strictly circumscribed, and so lacking in liberty of expression contrary to the wishes of the ruling class, as long as it speaks in favour of the government, it is safe no matter what twaddle it prints, but let it beware of how far it dares to go in criticism. Even those who confess admiration for the German system must admit that it is an autocracy or aristocracy somewhat modified by attempts at beneficent paternalism, but on the whole a government of the people, by the militaristic group for the chief benefit of the aristocratic or monied group.

Even in the field open to him as a member of the Reichstag, that is of discussion and the attempt to create an enlightened public opinion, the Social-democrat is much hampered by several circumstances. The militaristic group controls "good society", the Social-democrat is looked down upon socially, and that has enormous influence in all countries, but is especially powerful in a land where there is an excessive degree of flunkeyism, an inseparable accompaniment of an aristocratic government. The whole swarm of obsequious civil servants unite in condemning the Social-democrat for lack of patriotism; loyalty and servility, for this class of flunkies are interchangeable or identical.

Then the government schools gradually take on a certain degree of the same servility. Even the very excellent virtues of order and efficiency are made to spell chiefly obedience, hence the very system of well-organized schools to a considerable extent lends itself to strengthening the dominance of the militaristic ruling class and fosters a habit of mind that readily yields implicit obedience to orders.

All of this discourages any agitation for individual freedom or for making the government responsible to the governed, that looks like turning the world upside down to the ordinary complaisant order-taking German, for it must not be forgotten that complementary to the Prussian aggressiveness and domineering insolence is a very large measure of complaisance, or even admiration on the part of a large part of the population. Then, too, the fact that so very many industrial operations are carried on by government employees and civil servants adds greatly to the effective power of the government and to the prestige of the class which has most influence on the government. It cannot be denied that to a certain extent, and for many activities, prompt obedience spells efficiency. In the German nation efficiency is a word to conjure with, and in many respects there is a much closer resemblance between the military organization and the industrial in Germany, than in any other country in the world. Unfortunately, for the higher life of Germany in recent times, the ruling classes have acquired sudden wealth through the enormous indemnities collected from France, and also from the successful exploitation of their railways, and their utilization of applied science and technical education; and the result has been a great accession of arrogance. Unfortunately, also, a good deal of popular writing has pandered to the glory of dominating and domineering. Take for instance the halo of hero-worship woven about the history of Frederick the Great, and the glorification of the men who won the Franco-Prussian war. The remarkable successes gained by the political opportunism of Bismarck and the justification of the ruthlessness of his policy of "blood and iron" became an apology for power at any cost. How easy to accept then the doctrine of the "superman" and to go on the infatuation of a desire to become the "super-nation" by the only road, imposing its power on weaker nations by force of arms.

Against all this new-rich arrogance and feverish bellicosity the Social-democrat stood in more harmony with the simpler nobler ideals of an earlier Germany, with the teaching and writings of their greater earlier classical writers: with Kant, who had dreams of securing perpetual peace, with Goethe,

who had such enthusiasm for international brotherhood; with Schiller, who so ably exposed the meanness and insolence of the tyranny of Austria over the Swiss.

The Kaiser completely controls the peace-loving part of the community by his protestations of piety and love of peace. The war party completely controls the Kaiser by adroitly working on his vanity. With the exception of a few obstinate Social-democrats, then all are in complete accord: Einig, Einig, Einig, for WAR.

Unfortunately for the Social-democratic party in the Reichstag, it incurred the hostility of the clericals. The Kaiser has very skilfully exploited his orthodoxy against the Social-democrat's heterodoxy. In all his doings the Kaiser is super-religious and rarely omits to link himself up with the Divine. He is "with God", or, more frequently, God is "with him", so of course any opposition is irreligious. Whether this is sincerity or fanaticism or policy, it has had a great influence in securing the adherence of the church people. Probably some of them were a little surprised after the war had begun to find their versatile and enterprising Kaiser employing learned professors to translate into Arabic, proclamations for the Mohammedans assuring them that "great is Allah and the German Emperor is just now his Prophet." According to the ancient scriptures that tell us that a living dog is greater than a dead lion, the Kaiser has Mahomet out-classed!

The Social-democrats were never in sympathy with those movements for liberalism in Russia which associated them-

selves with nihilism and anarchism. There has developed a kind of race antipathy between the Teutons and the Slavs. It has been persistently propagated by the militaristic teachers that the Russians were a barbaric dangerous horde.

When the war began with Russia, it was represented that the Russians really began it, as it was claimed that the mobilization against Austria was really intended against Germany. If this story was not quite convincing, it was varied by another one, that represented that at any rate Russia intended to attack Germany in a year or two when good and ready, and that the German attack was really a "Preventivungskrieg" or preventive war. In one way or another by misrepresentation of the causes of war, by pressure of the army discipline, by the force of the aroused public sentiment or enthusiasm for the war, by a skilful appeal to the race prejudice against Russia and then with the hate literature, the Social-democrat was swept along with the tide, and only a few, notable among them Dr. Karl Liebknecht, were not deceived, but saw clearly the real significance of the whole movement, and also understood quite well who were pulling the wires.

Let us hope that after the war is finished, which was undoubtedly begun by Austria, with the connivance of Germany, there may come a new era for the Social-democratic party with clearer vision and more influence and let us trust that the militaristic misrulers who have so misgoverned and blundered, and so cruelly betrayed the best interests of their country may be brought under control and taught responsibility.

Our Alma Mater on Active Service

EXPLANATORY NOTE BY THE ART EDITOR

THE names of those from the University of Toronto who, within the past two years, have offered themselves in their country's service will some day be recorded as an evidence of the highest devotion to duty.

The one hundred and ten pictures appearing in the first few pages which follow are those of our valiant men, dead on the battlefields of France and Flanders, who counted life less dear than the cause in which they gave it. These include one hundred and nineteen students representing every faculty and college of the University, and three members of the staff.

The pictures which follow are those of approximately two thousand two hundred graduates and students of the University "On Active Service" both at home and overseas. It will be observed however that the portraits of about eight hundred others, including twelve men who have fallen, namely:

Henry Harold Allen, Trin. Coll.	Thomas Leon Goldie, Univ. Coll.	Henry Arthur Harding, Trin. Coll.
William Stewart McKeough, Medicine.	Norman Ewart Towers, Univ. Coll.	Aubrey Milton Marshall, Victoria Coll.
James Hamilton Ingersoll, Trin. Coll.	Robin Gordon Hamilton, Univ. Coll.	Geoffrey Allan Snow, Univ. Coll.
Arthur Edward McLaughlin, Univ. Coll.	Herbert Stanley Monkman, Medicine.	John Sanford Taylor, Applied Science.

are not included here for the reason that these were not available or at least could not be secured in sufficient time for publication. May we ask therefore that friends and relatives of these men note this fact and assist us in getting the remaining photographs for our next issue.

Since going to press about one hundred other men have enlisted and their pictures are consequently not included. To summarize therefore, about three thousand two hundred and fifty Varsity men have been attested for overseas service since the beginning of the war. Of these, ninety-seven are members of the faculty, with three thousand and sixteen graduates and undergraduates of whom there are one thousand and eighty in the ranks and one thousand nine hundred and thirty-six as commissioned officers. In addition twelve representatives of the U. of T. Young Men's Christian Association are doing relief work in the trenches and in the prison camps.

We at home may be unacquainted with many of these men but at one time they also were sons of our Alma Mater. We have inherited much from them and our debt to them is indeed very great, for upon their success depends our safety; by them we stand or fall. Moreover we are only their successors and similar sacrifices may be required of us before the day of victory dawns. Let us not falter therefore, but take courage from the fact that they have not wrought in vain; the sacrifices they have made will forever stand as a magnificent tribute to their true worth and nobility.


Hail! and Farewell!

BY JOHN OXENHAM


They died that we might live,—
Hail! and Farewell!
All honour give
To those who, nobly striving, nobly fell
That we might live!

Eternal honour give,—
Hail! and Farewell!
To those who died
In that full splendour of heroic pride,
That we might live.

Honour Roll




HUBERT G. ALLAN, Y.M.C.A.
DIED AT DIEPPE, FRANCE, APRIL 1915



PTE C.L. ANDERSON, 4th UNIV. COY.
REPORTED KILLED IN ACTION, JUNE 15 '16



LIEUT. FREDERICK C. ANDREWS, 3rd BN.
KILLED IN ACTION IN FRANCE, MARCH 16 '15



LIEUT. GORDON S. ANDREWS, 34 BTY.
ACCIDENTALLY KILLED AT KINGSTON, NOV. 15



MAJOR PANAYOTE P. BALLACHEY 588th
REPORTED KILLED IN ACTION, JUNE 17 '16




CAPT. ALFRED C. BASTEDO, 4th BN.
WOUNDED AT ST. JULIEN DIED MAY 11 '15




CAPT. W.G. BATES, LEINSTER REGT.
REPORTED KILLED IN ACTION
JUNE 5, 1915



2ND LIEUT. GERALD E. BLAKE, OXFORD REG.
REPORTED KILLED IN ACTION, JULY 31 '16




LT. COL. GEORGE W. BRUCE O.C. 181st BN.
DIED ON TRAIN NEAR CHAPLEAU, APRIL 22 '16




CAPT. T.G. BRODIE, NO 4 GH CAMO.
DIED SUDDENLY IN LONDON AUG 20 '16


Honour Roll




LIEUT. LEO BUCHANAN
KILLED IN ACTION APRIL 27 '16




LIEUT. R.A.R. CAMPBELL, 2ND B^N
REPORTED KILLED IN ACTION JULY 22 '16




SUB-LIEUT. JAMES R. CHAMBERLIN, R.F.C.
REPORTED KILLED IN AEROPLANE ACCIDENT
JUNE 5 '16




CPL. PHILIP F. CHIDLEY
KILLED IN ACTION MAY 13 '16




CAPT. ALLEN CM CLEGHORN R.A.M.C.
DIED OF PNEUMONIA MARCH 22 '16




LIEUT. CHARLES P. COTTON 2ND BDE C.F.A.
KILLED IN ACTION JUNE 21 '16




PTE. RUSSELL A. CROSS 2ND UNIV. CO.
REPORTED KILLED IN ACTION
JUNE 20 '16



CAPT. CARL DE FALLOT, 6TH BN LANCASHIRE REGT.
DIED OF WOUNDS RECEIVED AT DARDANELLES
JULY 13 '15



LIEUT. GEORGE G. DUNCAN 4TH BDE 10TH B^N
KILLED IN ACTION MAY 24 '15




GNR. KENNETH B. DOWNIE, 43RD B^N C.F.A.
KILLED IN ACTION AUG. 28 '16

Honour Roll










Lieut. FREDERICK L. EARDLEY, WILMOTT P.P.C.L.I.
Killed in action in France March 1915

Pte. JUDSON H. ELLIS No. 3 F.A. C.A.M.C.
Died of wounds May 21st 1915







Lieut. SHIRLEY D. ELLIS, B.E.F.
Died in hospital after operation for appendicitis

Lieut. W.L. EVANS R.A.M.C.
Killed in action Aug. 11, 16

Lieut. JAMES S. FLEMING R.F.A.
Killed in action April 11, 16






Capt. FINLAY D. FRASER, 4th Bn
Died at Boulogne Aug. 12, 16

Spr. HARRY W. FROGLEY 5th FD Coy
Reported killed in action May 5, 16

Cpl. GEORGE G. GALLOWAY 26th Bn C.F.A.
Killed in action February, 1916






Lieut. FRANCIS E. GANE, 43rd Bn
Killed in action May 19, 1916

Major PAUL A. GILLESPIE, A.M.C.
Died of Bubonic Plague at Winsburg, S.A. Mar. 20th 16

Honour Roll




CAPT. GEORGE C. GLIDDON, 10th BN
DIED OF WOUNDS MAY 14th '15




LIEUT. HENRY R. GORDON, 3rd BN
KILLED IN ACTION JUNE 28 '16




LIEUT. THOMAS S. GORDON, SCOTTISH BORDER
DIED OF WOUNDS JAN 22 '16




LIEUT. OSWALD W. GRANT, 1st BN
REPORTED KILLED IN ACTION JUNE 19 '16




LIEUT. HUGH A. GRASSETT - 3rd BN
REPORTED KILLED IN ACTION JUNE 22 '16




PTE. HENRY GREENWOOD, 76th BN
DIED OF PNEUMONIA IN FRANCE




LIEUT. D. G. HAGARTY, 2nd UNIV CO. P.C.L.I.
REPORTED KILLED IN ACTION JUNE 7 '16



PTE. DAVID E. HAIG, DIV. CYCLE CORPS
DIED OF MENINGITIS AT GEN. HOSPITAL TORONTO, MAY 4 '15



LIEUT. THOMAS L. HARLING, 8th C.M.R.
REPORTED DIED OF WOUNDS AT ZILLEBEKE, JUNE 7 '16




LIEUT. JOSEPH G. HELLIWELL, 1st BN
KILLED IN ACTION, JUNE 19 '15


Honour Roll




Honour Roll




CPL. STUART KENNEDY, 2nd Bⁿ C.E.F.
KILLED IN ACTION JULY 2nd '15




LIEUT. HERBERT N. KLOTZ, 2nd Bⁿ C.E.F.
KILLED IN ACTION AT ST. JULIEN, APRIL 27 '15




CAPT. EDWARD J. KYLE, ADJ. 147th Bⁿ
DIED OF PNEUMONIA MAY 14 '16




DR. NORMAN LAWLESS, 2nd Fⁿ Co C.E.
DIED OF FEVER IN FRANCE, FEB. 1915




PTE. ALFRED E. LAWTON, No 2 F.A.
DIED OF WOUNDS, NOV. 11 '15




L/CPL. JOHN G. LONSDEN, No. 5 F.A.
KILLED IN ACTION MAY 8 '16




PTE. A. M. MACKENZIE, M.G. Sec. 15 Bⁿ
KILLED IN ACTION APRIL 11 '16



LIEUT. GEORGE MACKENZIE, 35th Bⁿ
Reported killed in action JUNE 10 '16



SEC. LIEUT. J. R. MAQUIRE, 14th WEST YORKSHIRE REG.
Reported killed in action AUG 28 '16



LIEUT. HOWARD J. MACLAURIN, 43rd Bⁿ
Reported killed in action, JUNE 20 '16

Honour Roll



Lieut. MAURICE E. MALONE, 15 Bⁿ
Reported killed in action, June 7, 16

Capt. D. B. McLEAN, R.A.M.C.
Reported killed in action, Sept 7, 16



Major Gen. M. S. MERCER, 3rd Div Hqs
Reported killed in action June 20, 16

Lt. H. S. HOLCROFT, No 2 Tunnelling Co
Died of wounds, July 11, 16


Lieut. ARTHUR E. MUIR, 15 Bⁿ
Killed in action May 21, 15



Lieut. HAROLD H. OWENS, 17th Bⁿ
Killed in action Feb 1st 16

Lieut. HENRY E. PLATT, 23rd Res. Bⁿ
Reported died of wounds May 7, 16


Pte. ROY IRVINE ROAST, 4th Univ Co
Killed in action July 18, 16



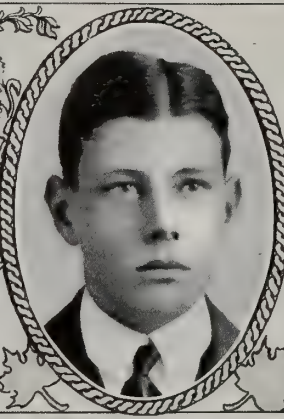
Lt. H. P. PRIMROSE, 1st Can Div
Reported killed in action Nov 16

Cpl. ARTHUR H. Qua, 1st P^{ce} Co
Reported killed in action June 4, 16


Honour Roll




SPR. GEORGE E. REVELL, 1st FDC^{CE}
KILLED IN ACTION JUNE, 15-15




PTE. R. M. RICHARDS, LONDON SCOTTISH REGT
KILLED IN ACTION NOV. 13-14




LIEUT. JAMES E. ROBERTSON, 27th Bⁿ
KILLED IN ACTION MARCH, 9-16




CAPT. G. C. RYERSON, 3rd Bⁿ
REPORTED KILLED IN ACTION APRIL 27-15




MAJOR CHARLES E. SALE 18th Bⁿ
DIED OF WOUNDS JAN. 19-16




SGT. WESLEY G. SHIER, 25th BUCKFA
REPORTED DIED OF WOUNDS JUNE, 15-16




PTE. JOSEPH C. SHIPTON, 11th RES Bⁿ
REPORTED KILLED IN ACTION



SEC. LIEUT. COLIN SIMPSON, ROYAL F^o A^{ry}
KILLED IN ACTION, AUG. 8-16


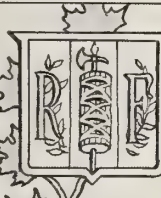





LT COL ARTHUR W. TANNER, C.A.M.C.
REPORTED DIED OF WOUNDS JUNE, 6-16






LIEUT. GEOFFREY B. TAYLOR, 15th Bⁿ
DIED OF GAS POISONING, MAY 1915

Honour Roll



DOM. ROSS M. TAYLOR, 4th Bⁿ C.F.A.
KILLED BY EXPLOSION OF A SHELL JAN. 16 '16




LIEUT. A. M. THURSTON, 4th Bⁿ C.F.A.
REPORTED KILLED IN ACTION, JUNE 30 '16



LT. KENNETH M. VAN ALLEN, R.N.A.S.
DIED OF WOUNDS JULY, 1916

MAJOR GEORGE E. VANSITTART, 13th Bⁿ C.F.A.
REPORTED KILLED IN ACTION, MAY 1916

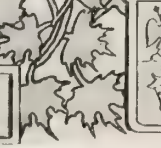



LIEUT. F. W. WALSH, 17th ROYAL WELSH FUSILIERS
DIED OF WOUNDS, JULY 11 '16



LIEUT. ROBERT E. WATTS, 84th Bⁿ
DIED OF SCARLET FEVER AT TORONTO, JUNE, 1916

PTE. EDWARD A. WEBB, 4th UNIV. CO.
DIED OF WOUNDS APRIL 16

LIEUT. CHESTER M. WILLEY, R.C.A.
DIED IN LONDON HOSPITAL, JULY 27 '16



LIEUT. GEORGE K. WILLIAMS - R.F.A.
REPORTED ACCIDENTLY KILLED JUNE, 12 '16

LIEUT. HAROLD M. WILSON, 15 Bⁿ
KILLED IN ACTION, JUNE, 12 '16

Honour Roll



CAPT. N.J.L. YELLOWLEES, No 4 GH C.A.M.C.
DROWNED AT SALONICA, MAY 7 '16



LT. MCDEBUDE YOUNG, 7th BAT. SCOT. BOR. RG.
KILLED IN ACTION IN FLANDERS, OCT. 1 '15



CAPT. D.F. CAMPBELL, BLACK WATCH HIGHLANDERS
DIED IN LONDON HOSPITAL, SEPT. 5 '16



MAJ. W.K. CAMPBELL, ROYAL FLYING CORPS
DIED OF INJURIES SUSTAINED IN FALL AT BUFFALO, SEPT. 8 '16




PTE. A.W. CHESNUT, 4th UNIV. CO. P.C.L.I.
DIED OF WOUNDS, SEPT. 7 '16




LT. J.U. GARROW, 74th Bth C.E.F.
DIED OF GAS POISONING, SEPT. 14 '16



LT. A.W. MACDONALD, 13th Bth C.E.F.
KILLED IN ACTION, SEPT. 15 '16



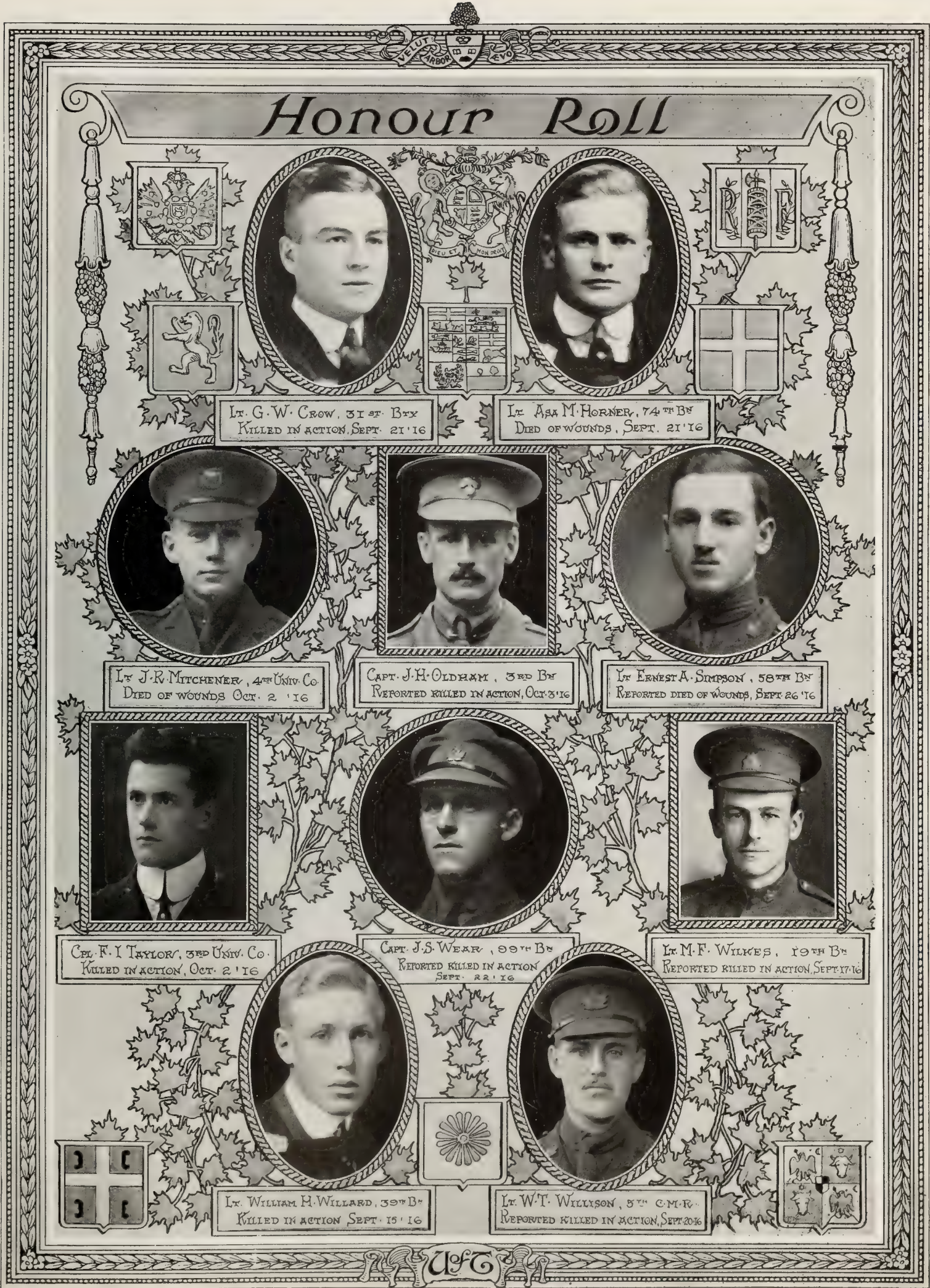
LT. M. MACCELL, SHROPSHIRE LIGHT INFANTRY
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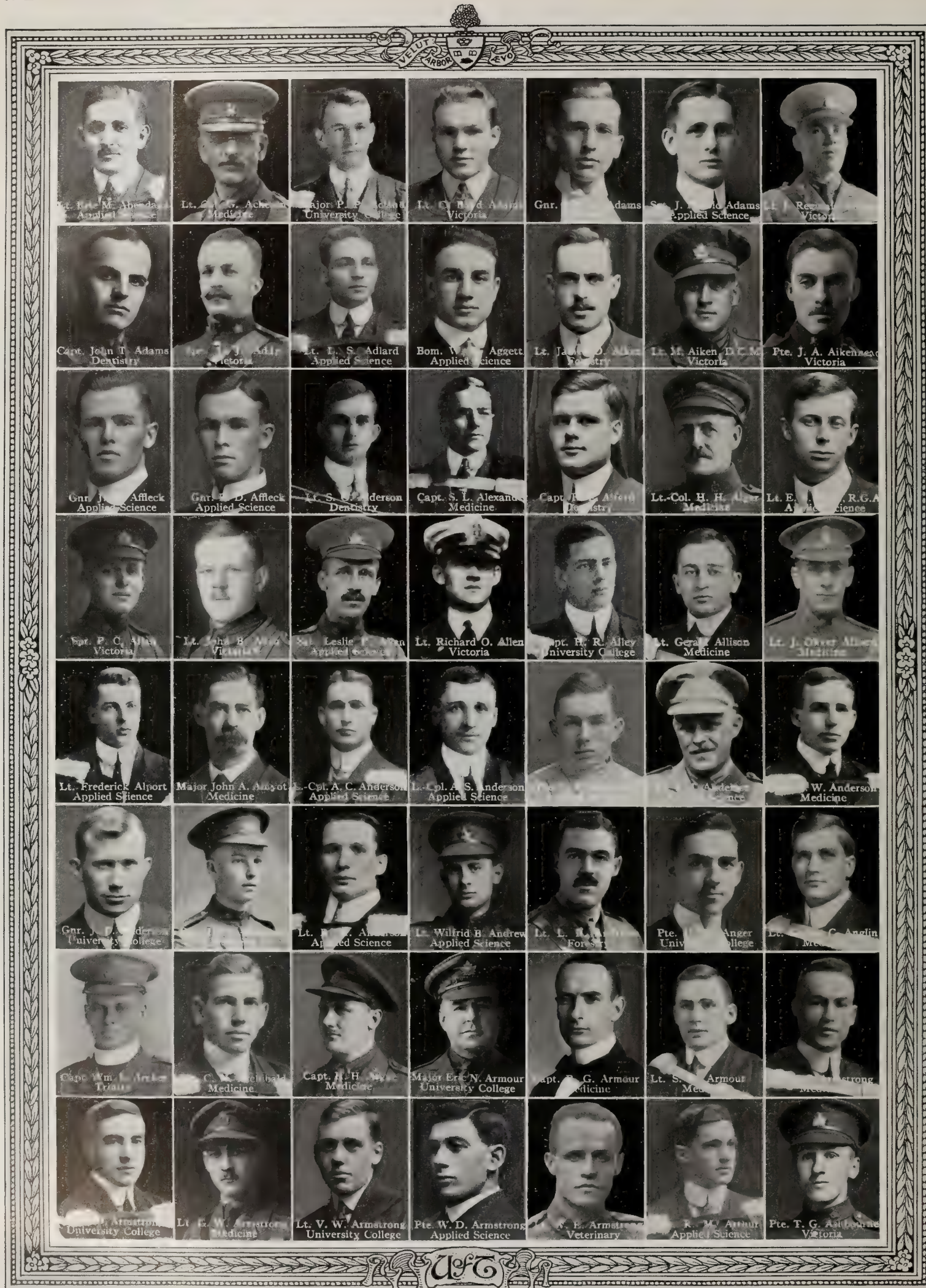


LT. H.E. MCCUTCHEON, ROYAL FLYING CORPS
KILLED IN ACTION, SEPT. 13 '16



LT. EDGAR H. MCVICKER, R.A.M.C.
KILLED IN ACTION, SEPT. 16 '16










Pte. R. O. Beattie
University College



Pte. F. W. Beatty
Applied Science




Pte. H. A. Beatty
Agriculture



Lt. Cpl. G. Beatty
University



Lt. John McL. Beatty
University College



Lt. Percy W. Beatty
University College



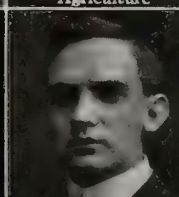
Pte. E. A. Belknap
Victoria




Sgt. A. H. Bell
University College



Capt. A. H. Bell
Medicine



Gnr. Edmund C. Bell
Victoria



Capt. Harold Bell
Medicine



Gnr. H. Brooke Bell
University College



Lt. James S. Bell
University College



Sgt. J. William Bell
University College



Gnr. B. W. Bearse
Applied Science




Sgt. R. O. Bennett
Victoria




Lt. S. G. Bennett
Applied Science



Capt. H. A. Ben-Oiel
University College




Lt. A. W. Bentley
Forestry



Major D. B. Bentley
Medicine



Major W. J. Bentley
Medicine




Capt. A. H. Berry
Applied Science




Lt. R. O. Berry
Medicine




Sgt. E. A. Berry
Medicine




Lt. G. H. Berry
University College



Sgt. F. A. Bescoby
Veterinary



Sgt. H. M. Bethune
Medicine



Lt. R. O. Bicknell
Medicine



Lt. T. H. H. Bevan
Applied Science



Lt. W. H. Bevan
Applied Science




Capt. Louis A. Biber
U. C. 1915



Pte. N. J. Bicknell
Medicine



Lt. Earle L. Biggar
University College



Capt. G. L. Binkley
Medicine



Lt. R. A. Bishop
Applied Science



Lt. H. E. Binns
Applied Science



Lt. J. H. Birch
Applied Science



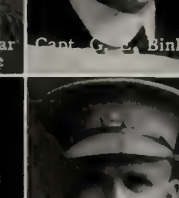
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University College



Lt. H. Birkenhead
University College



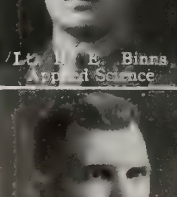
Lt. J. F. P. Birnie
Victoria



Lt. C. A. Bishop
Applied Science




Lt. R. A. Bishop
Medicine




Sgt. W. A. Black
Applied Science



Pte. A. B. Black
Applied Science




Lt. Howard Black
Medicine




Lt. David Blain
Applied Science



Bom. York Bailey
Medicine




Lt. A. S. Blewett
University College



Pte. F. D. Blott
Medicine



Capt. J. L. Bole
University College



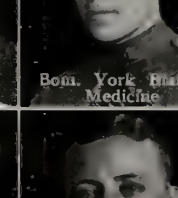
Col. J. B. Bole
University College



Lt. J. Bonny
Medicine



Sgt. F. B. Bole
Applied Science



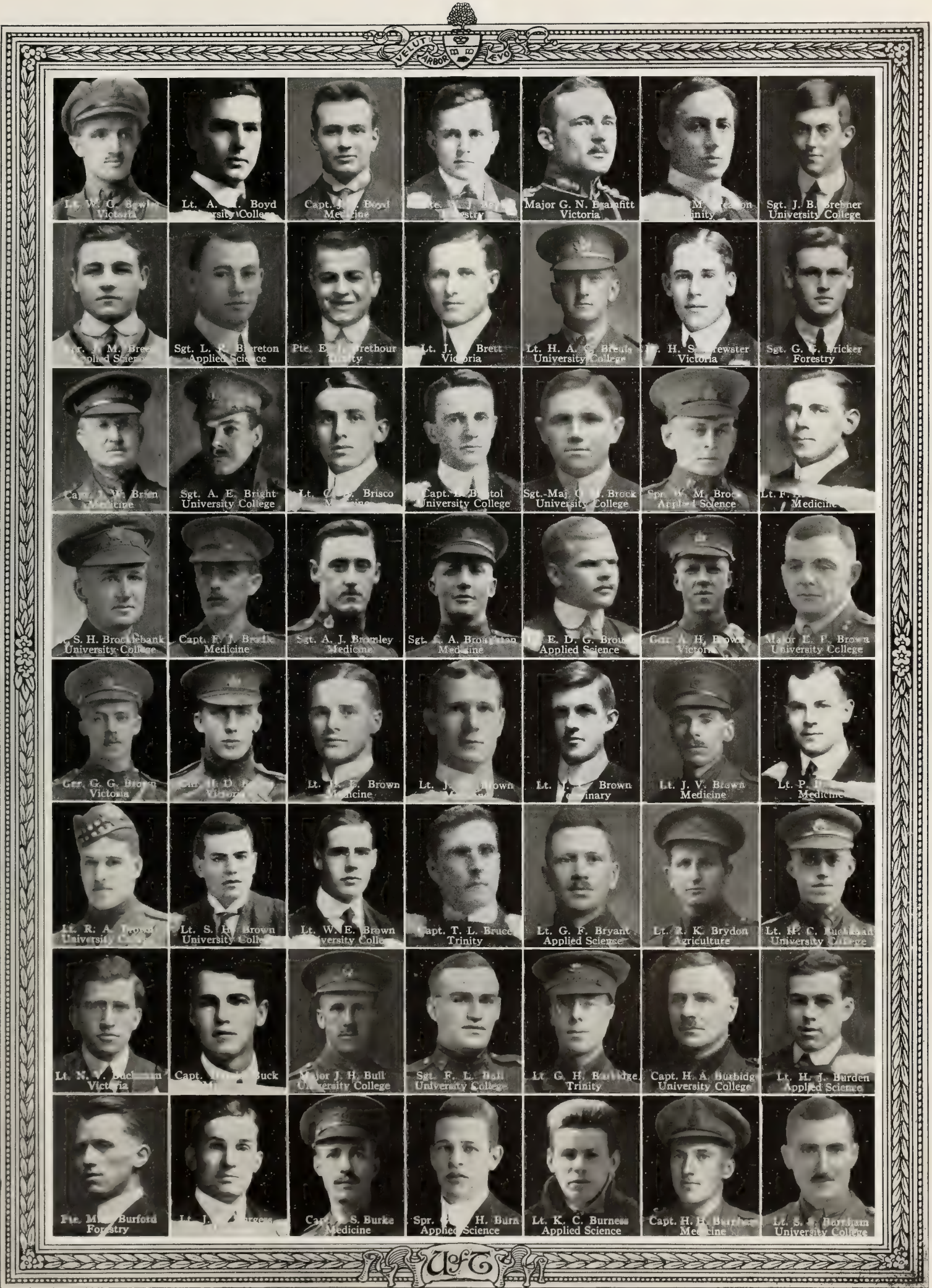
G. E. Bothwell
Forestry

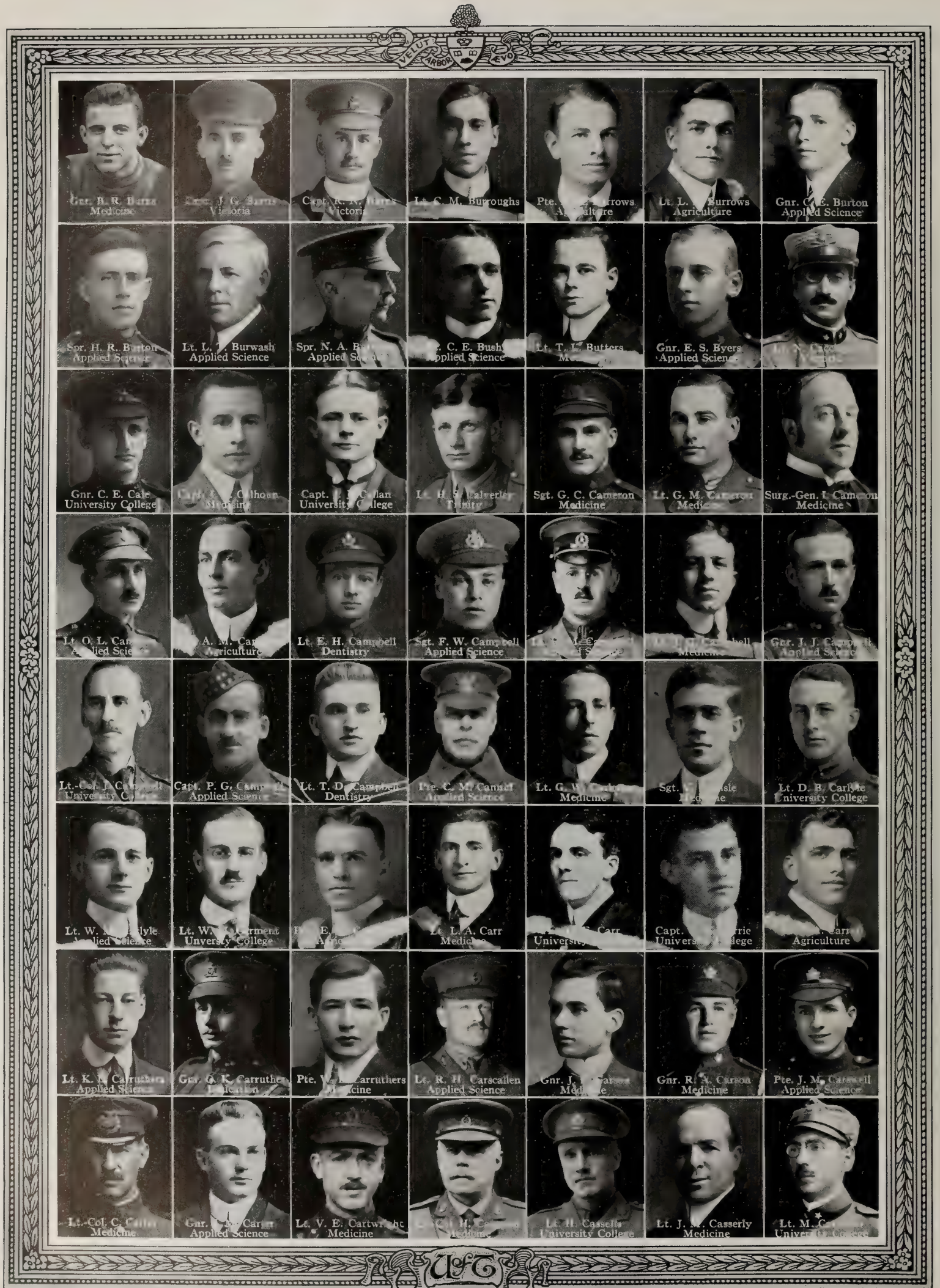


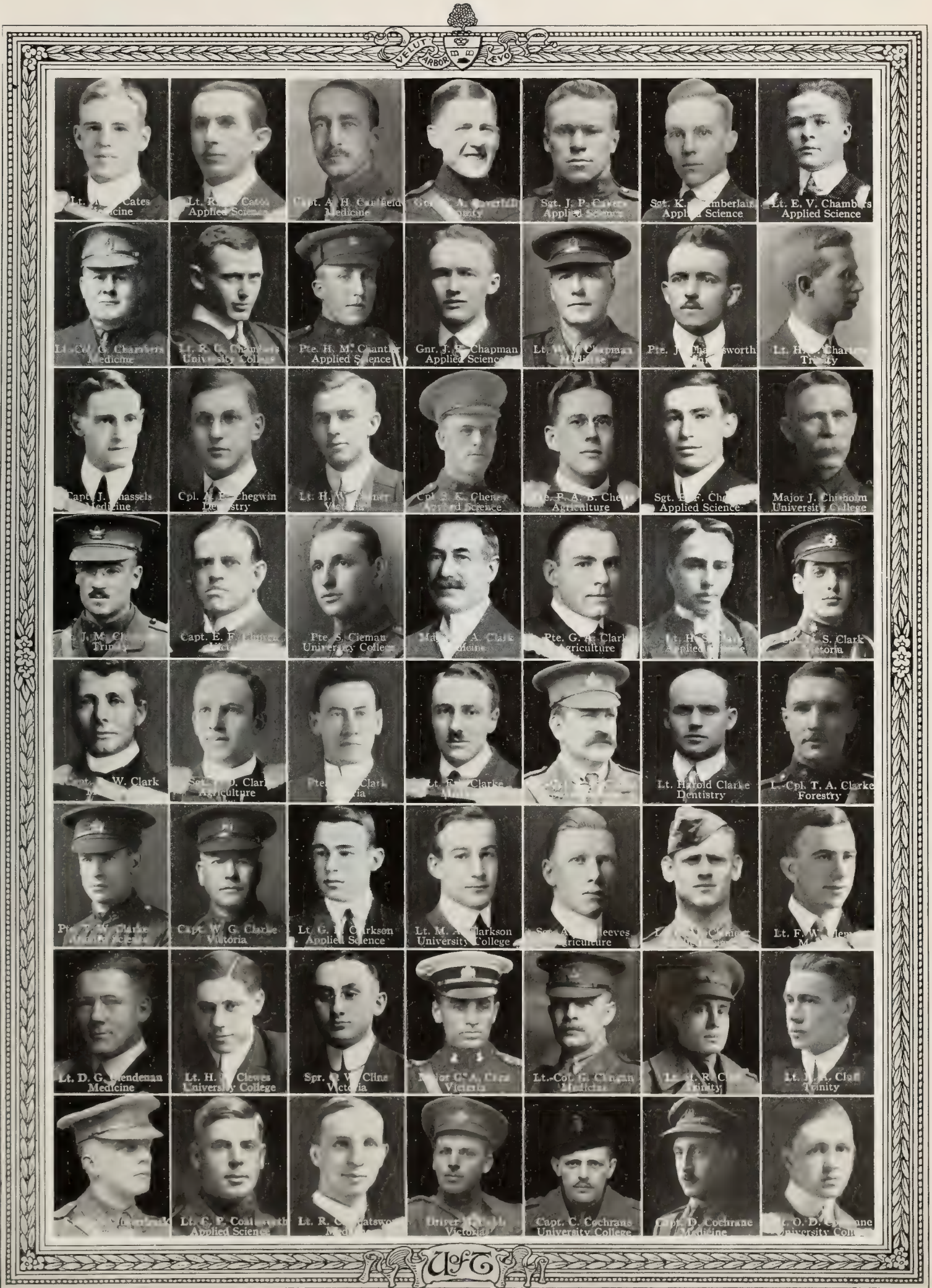
Spr. J. A. Bott
Medicine

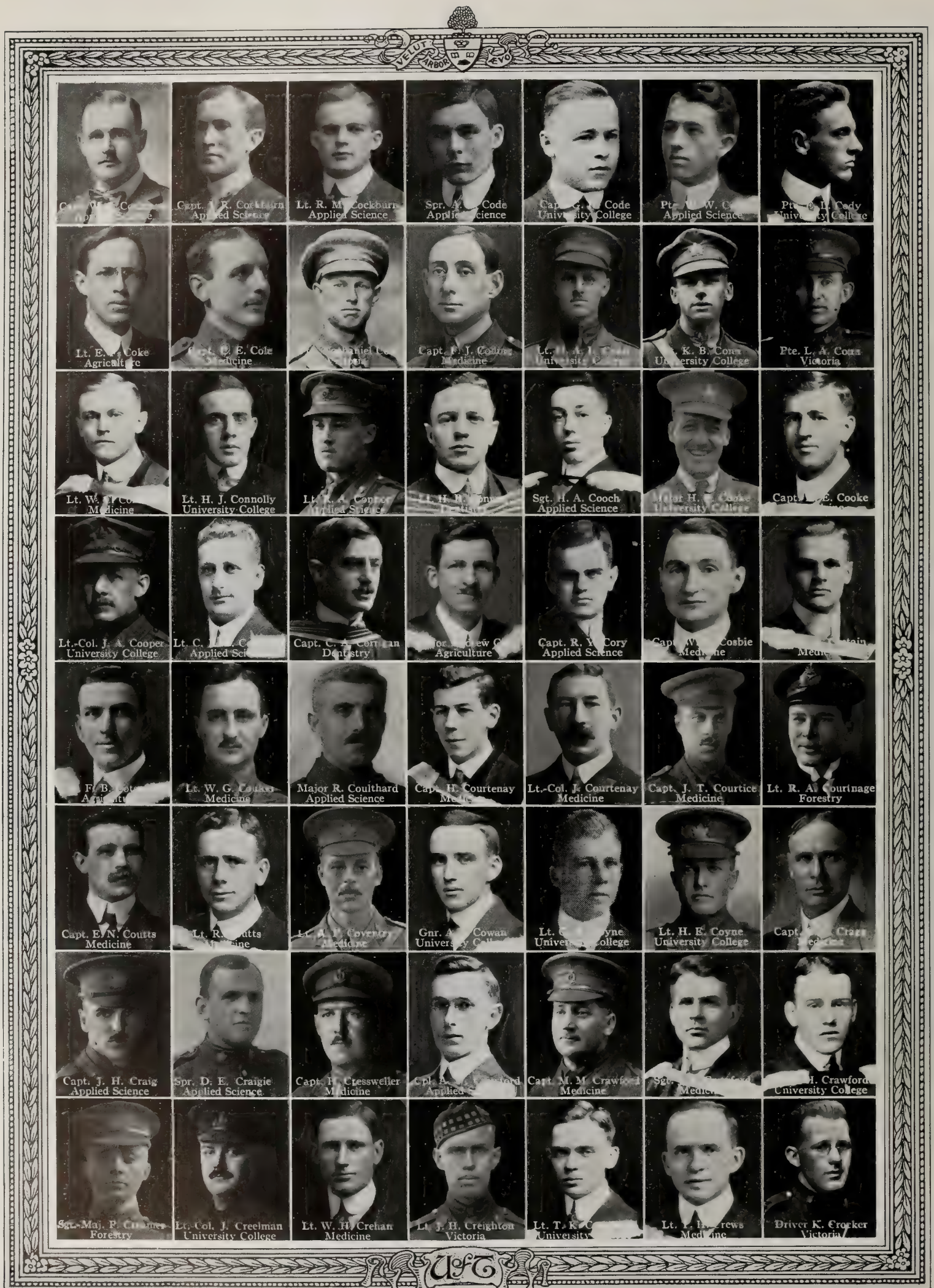


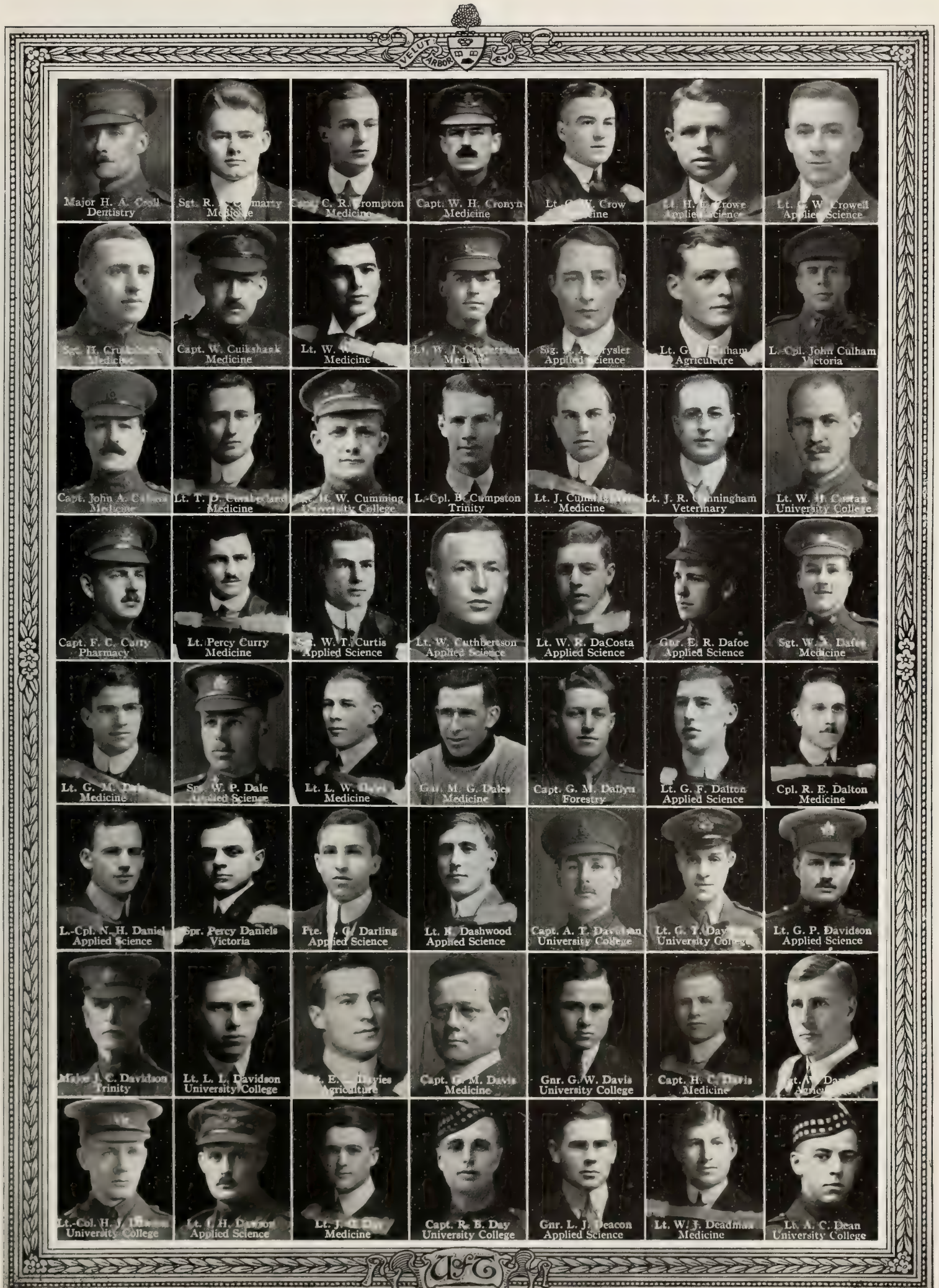
Lt. A. Bourinot
University College

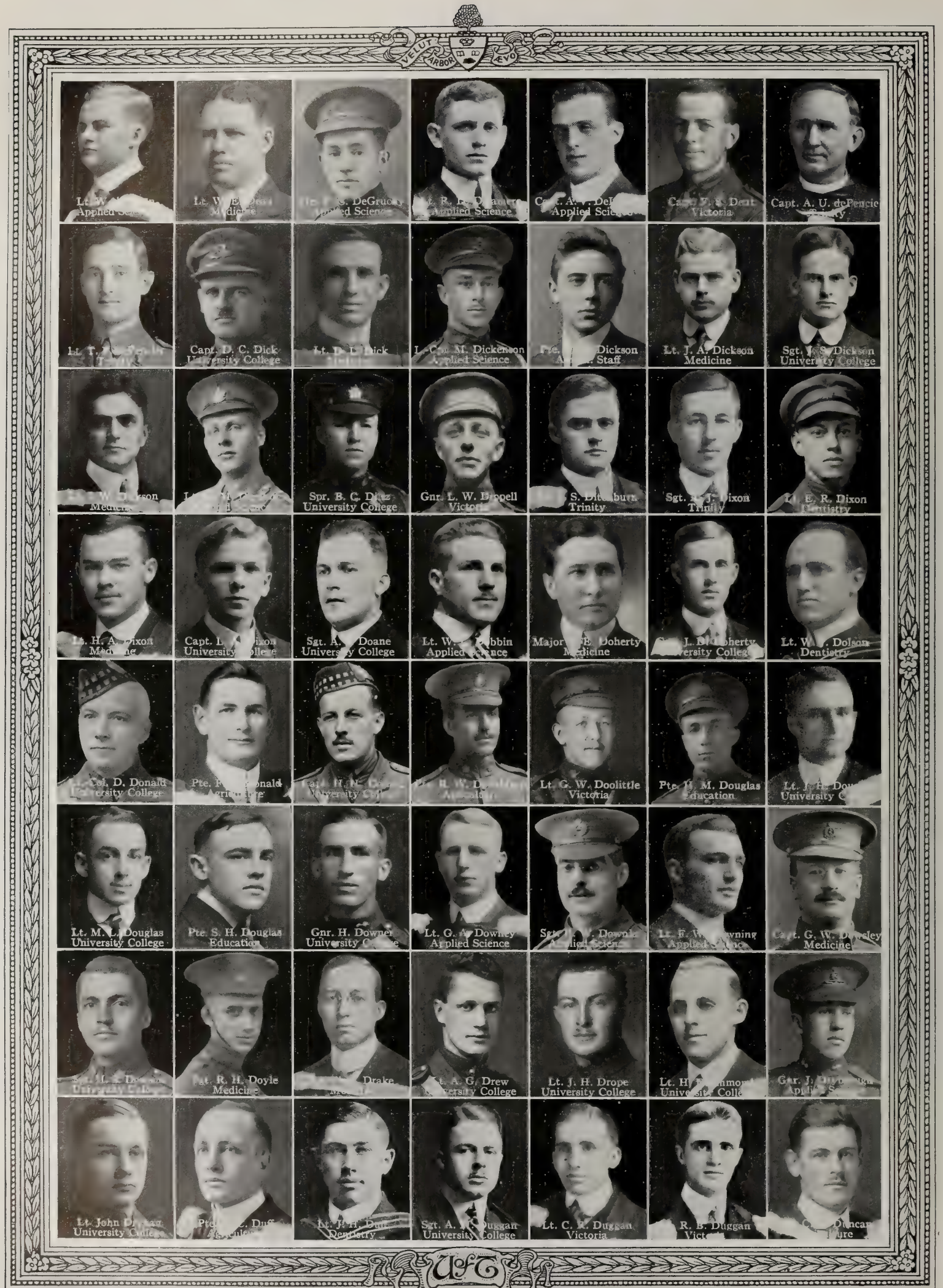




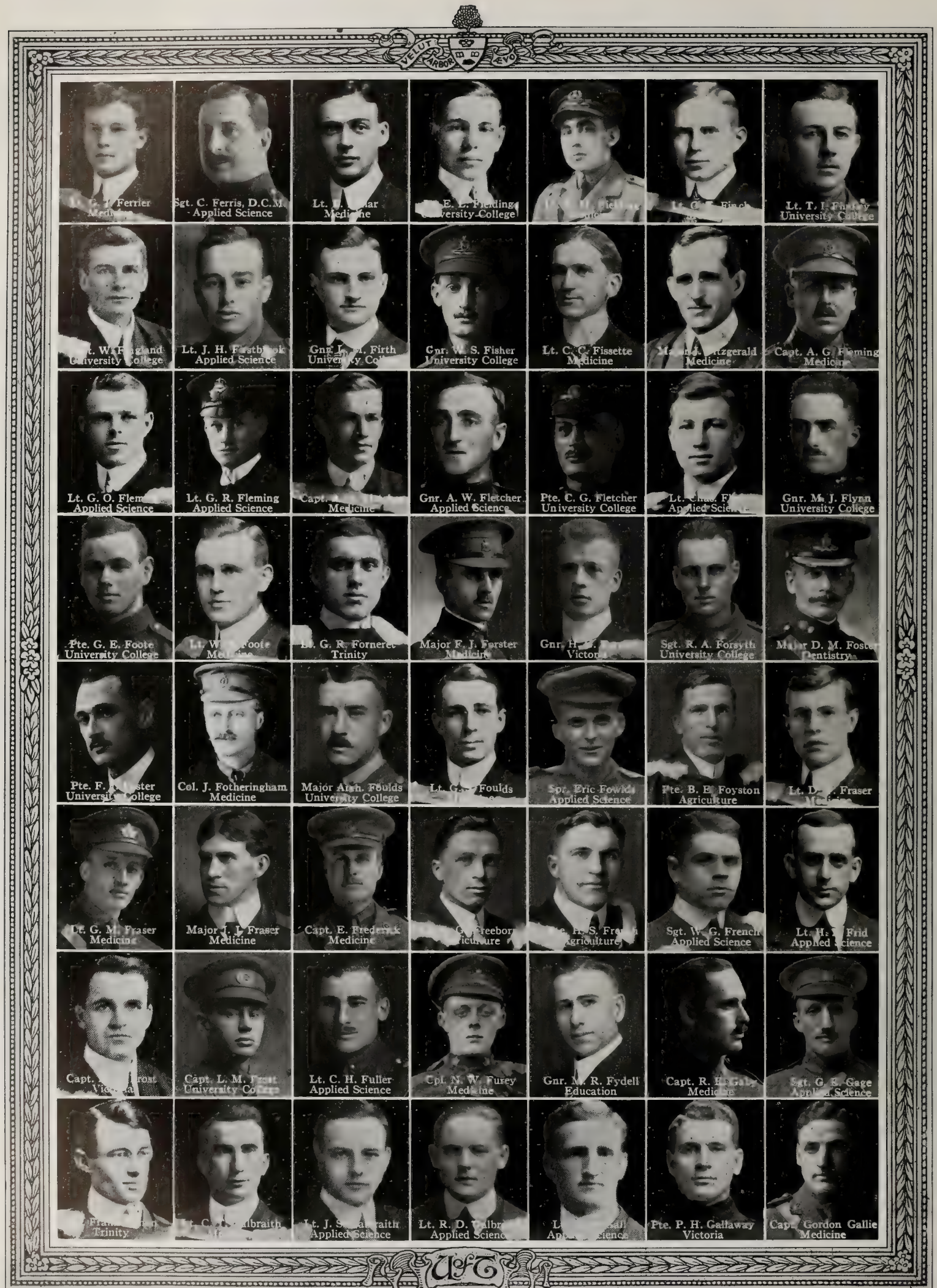


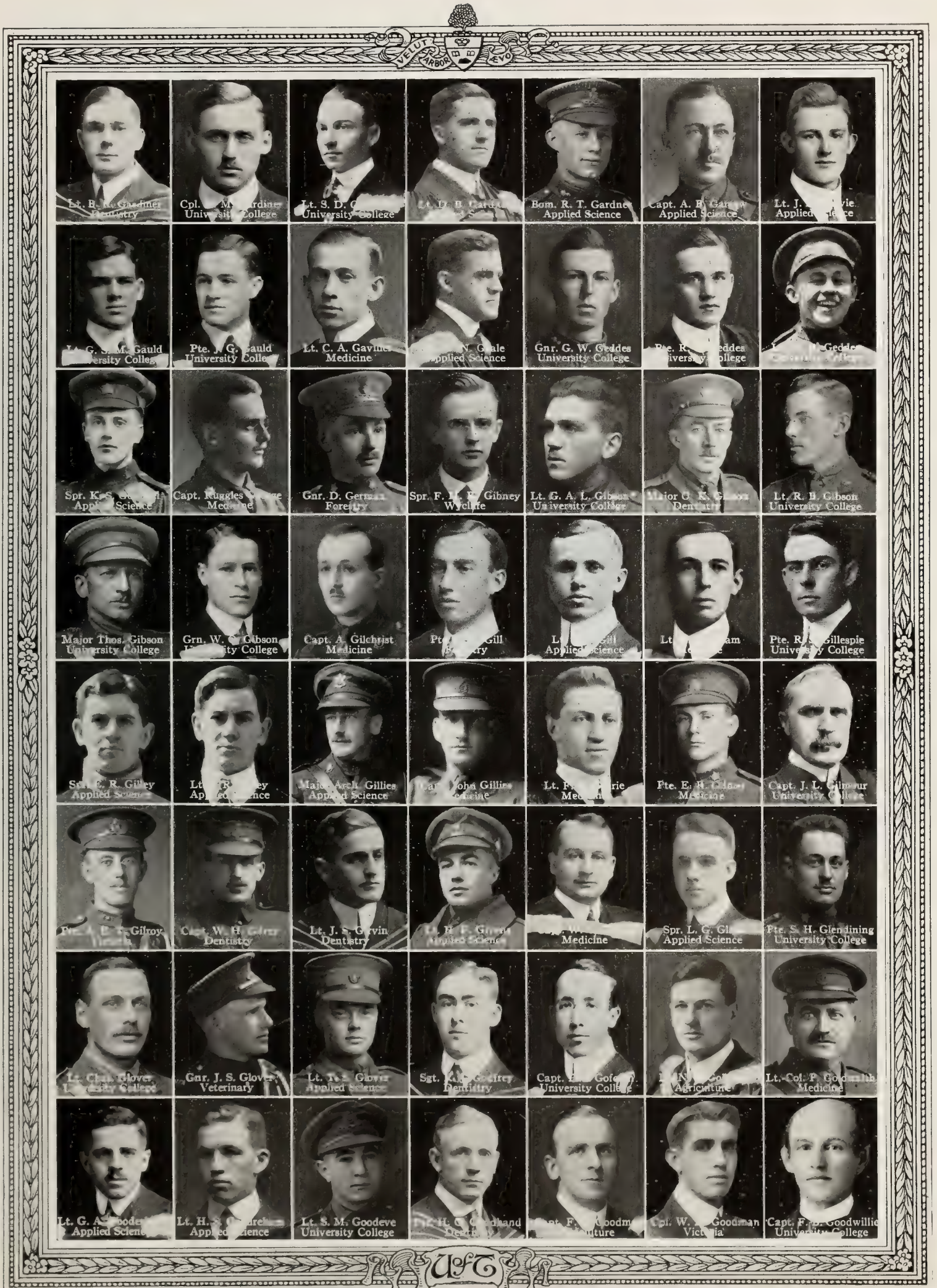


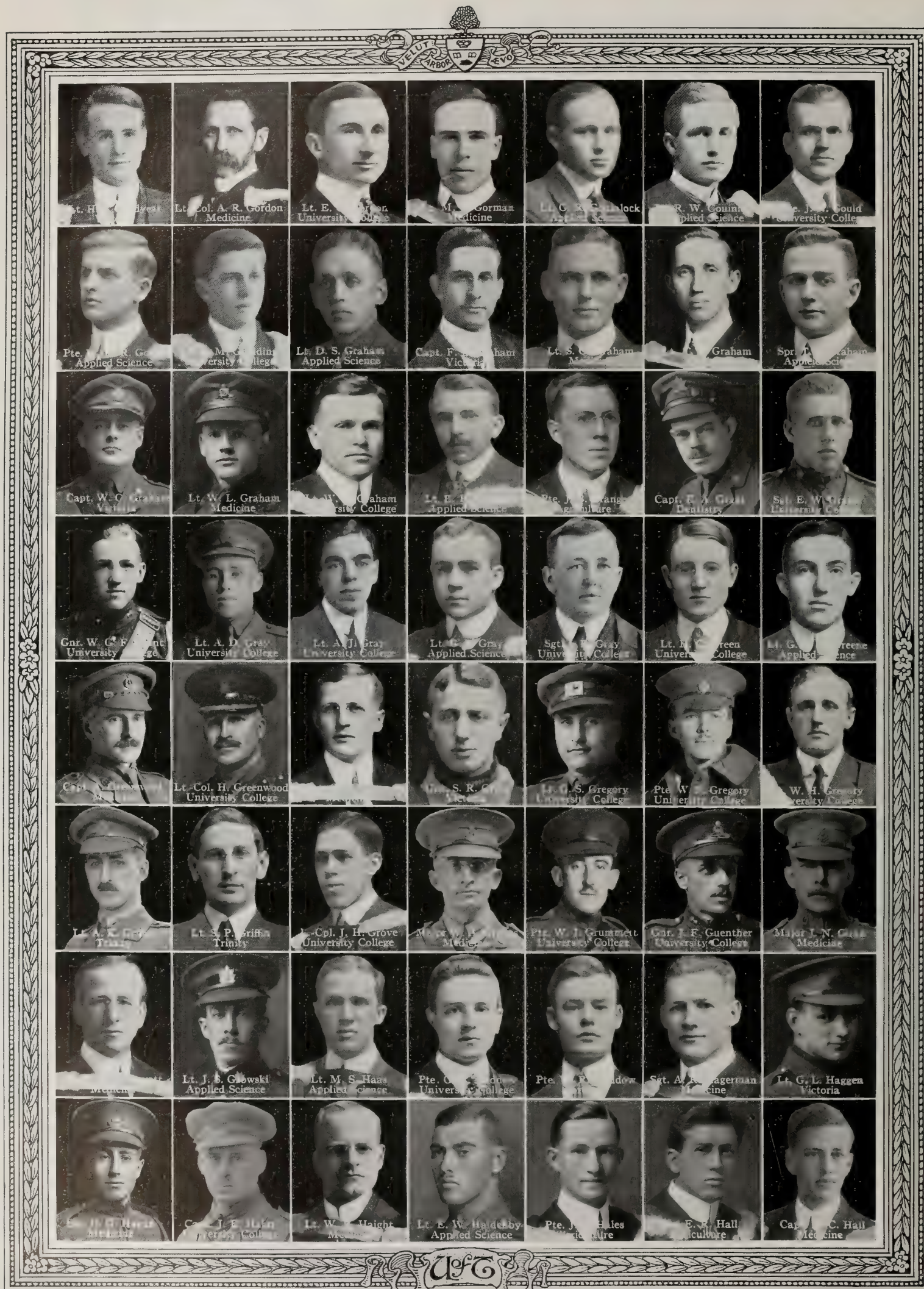




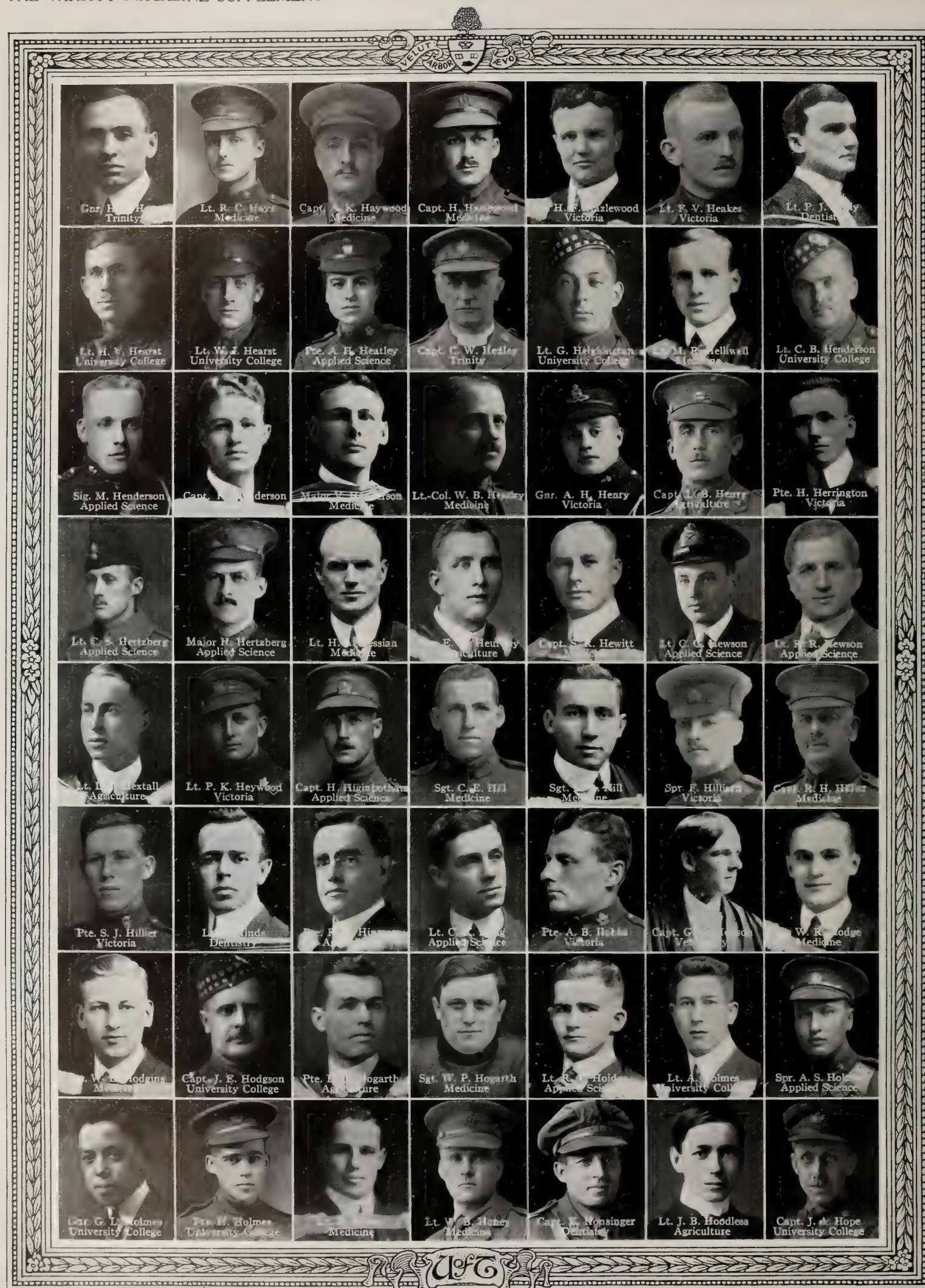




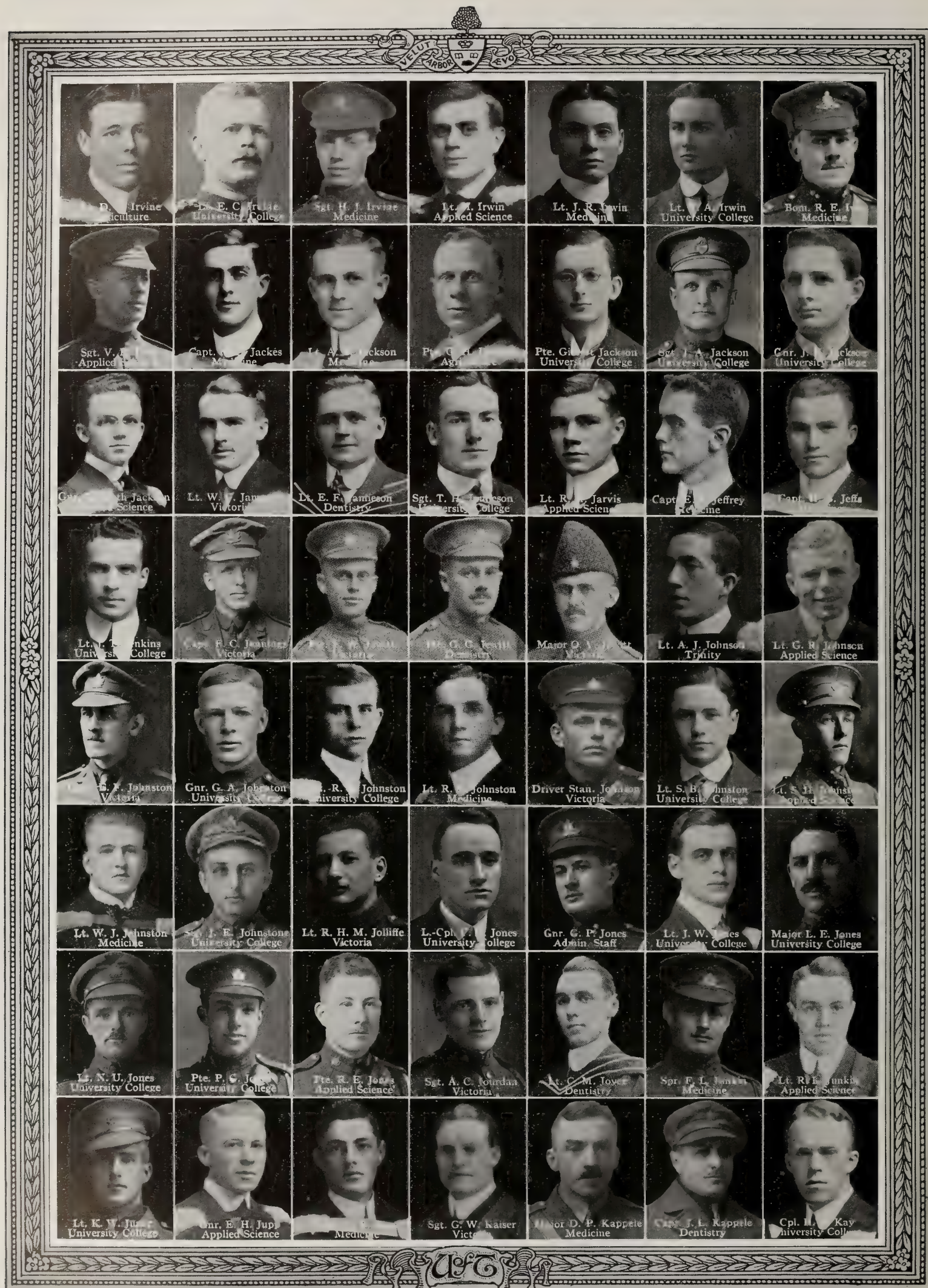


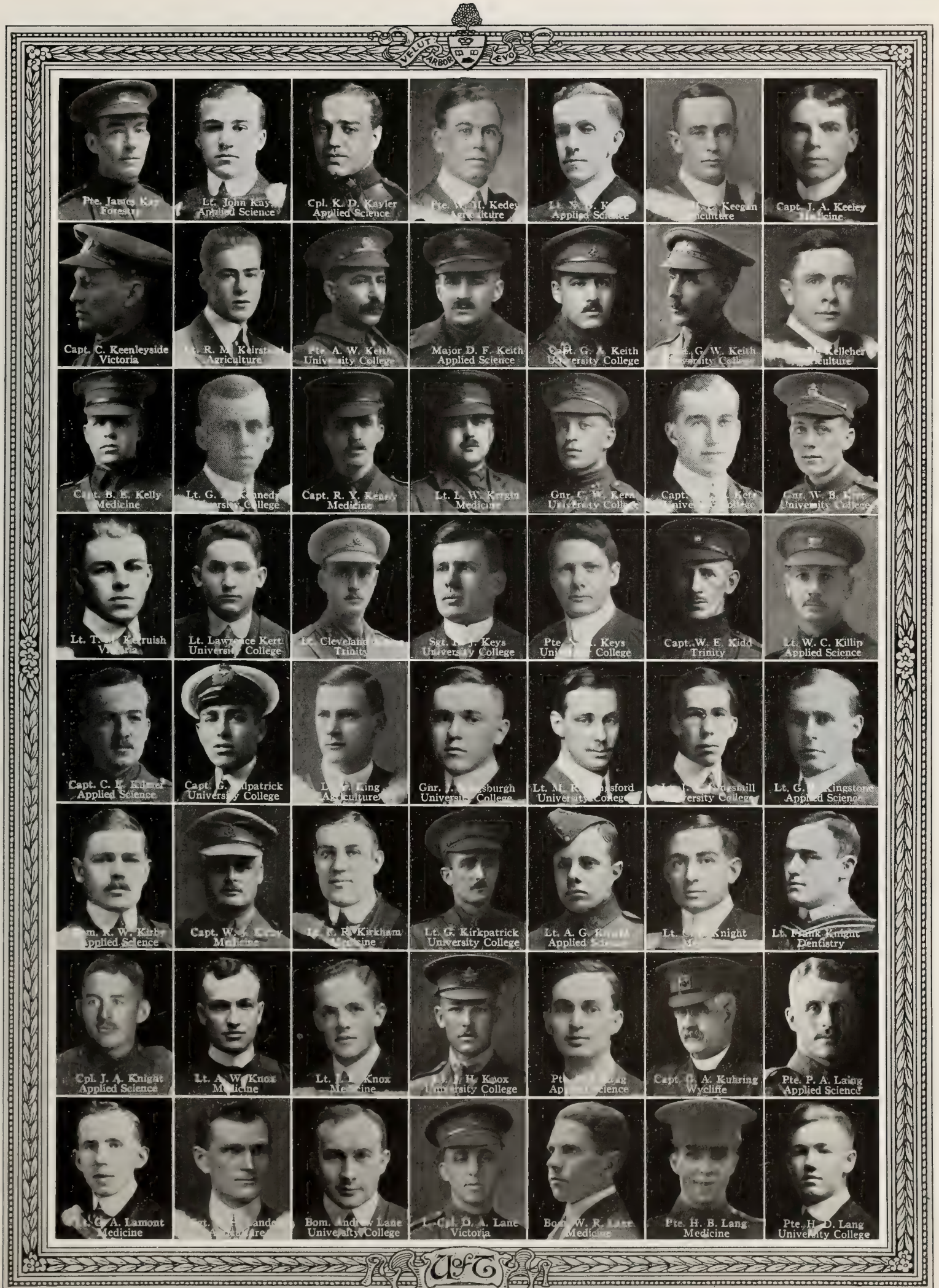


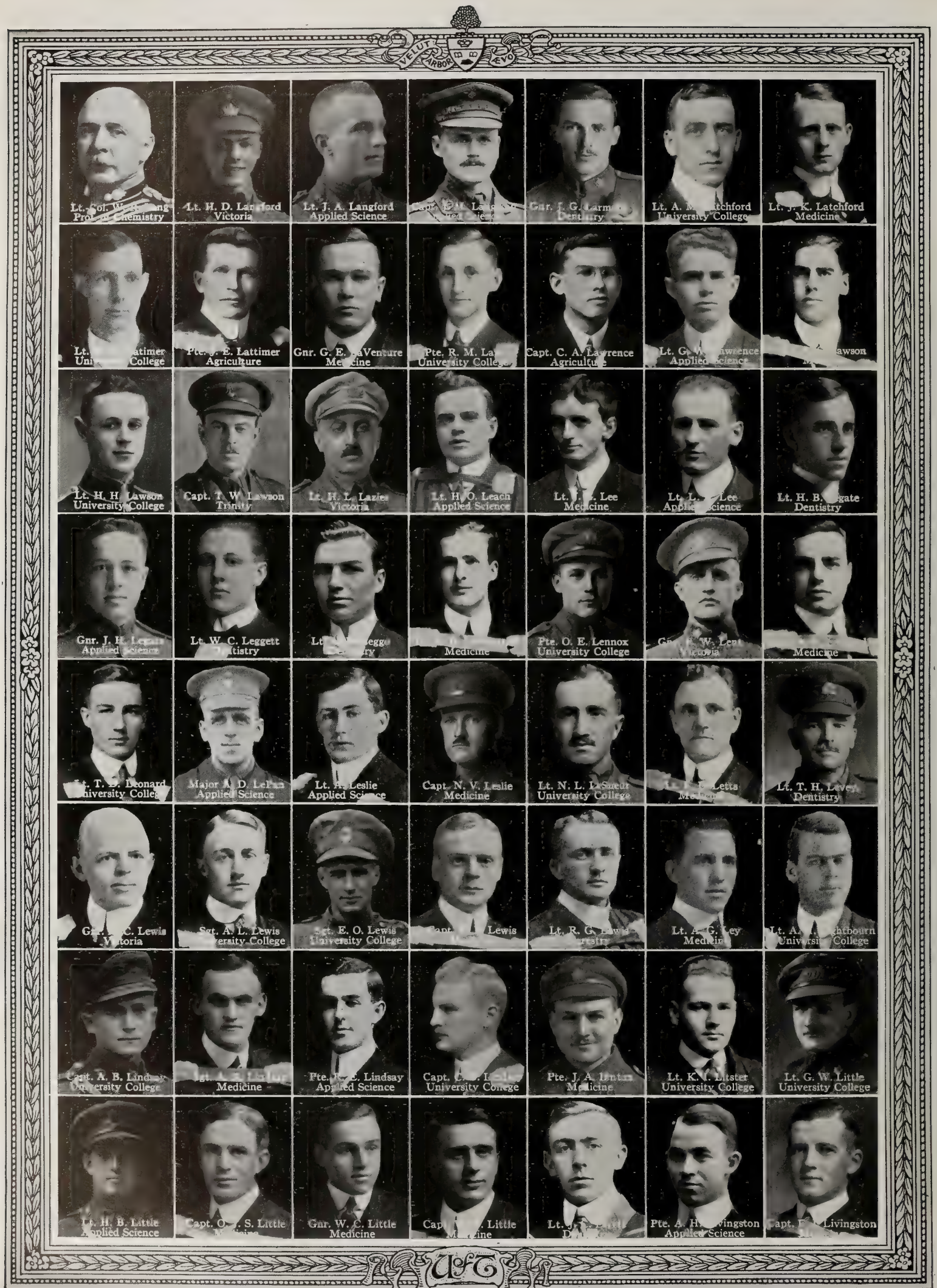




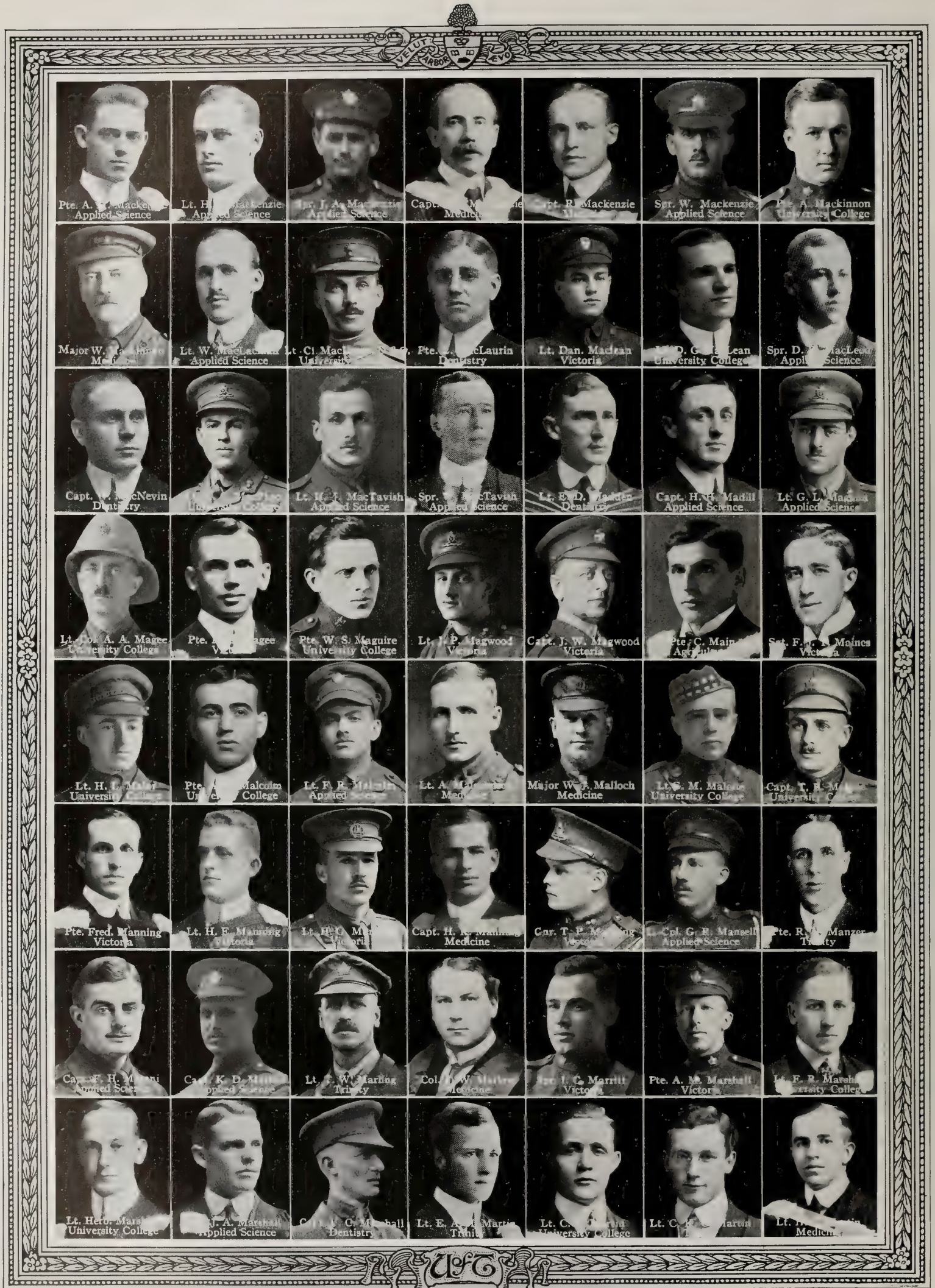












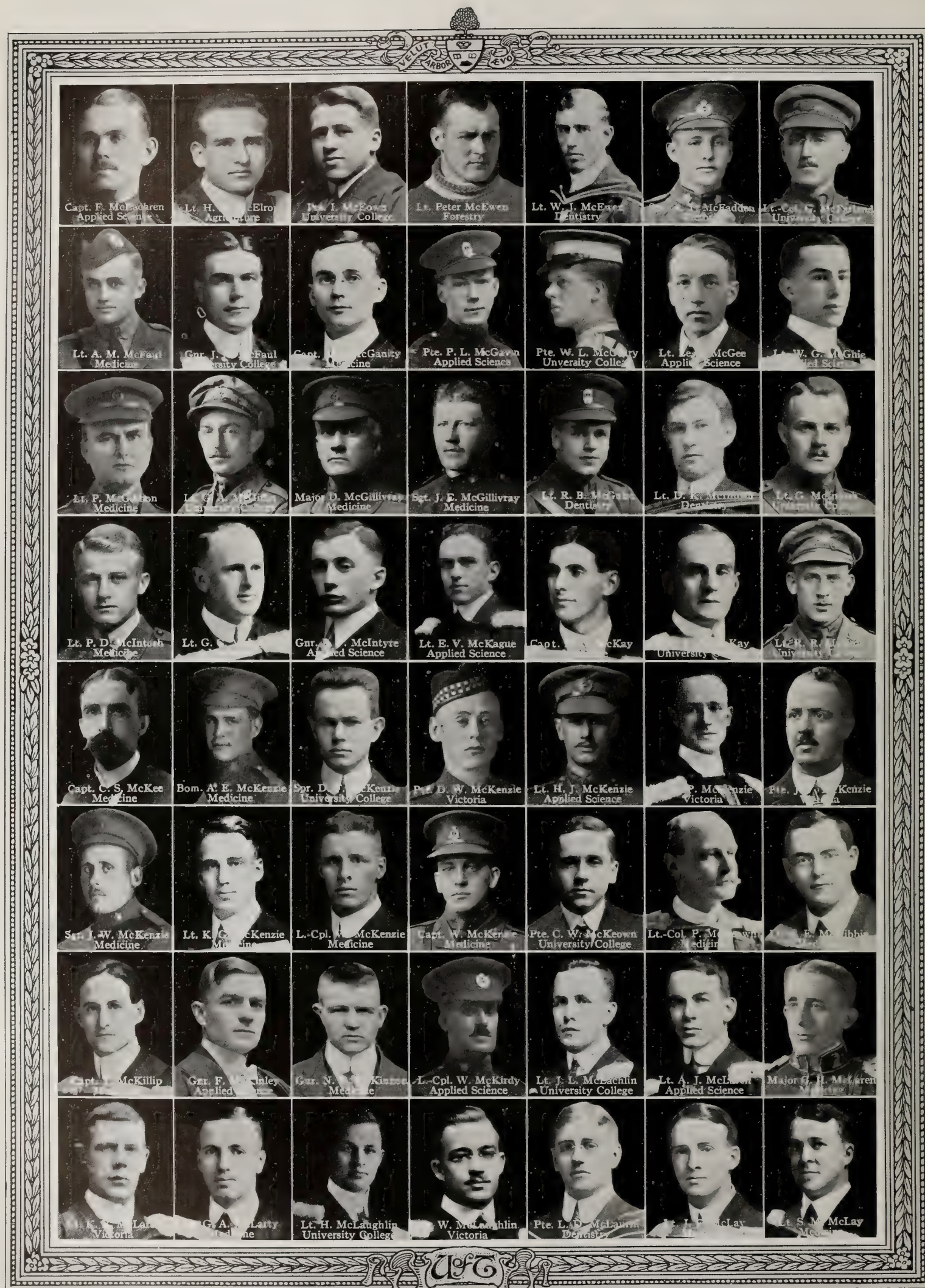


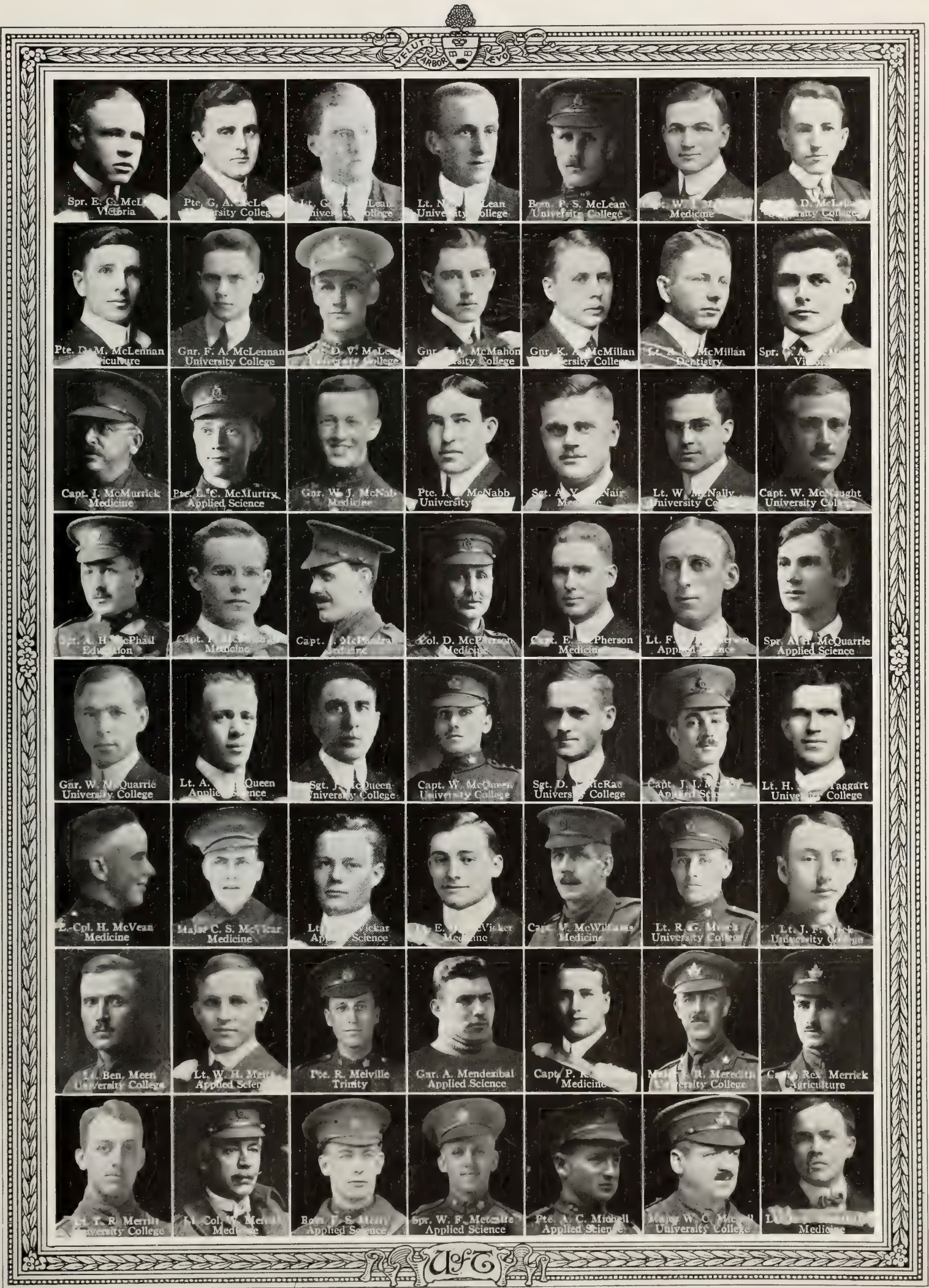


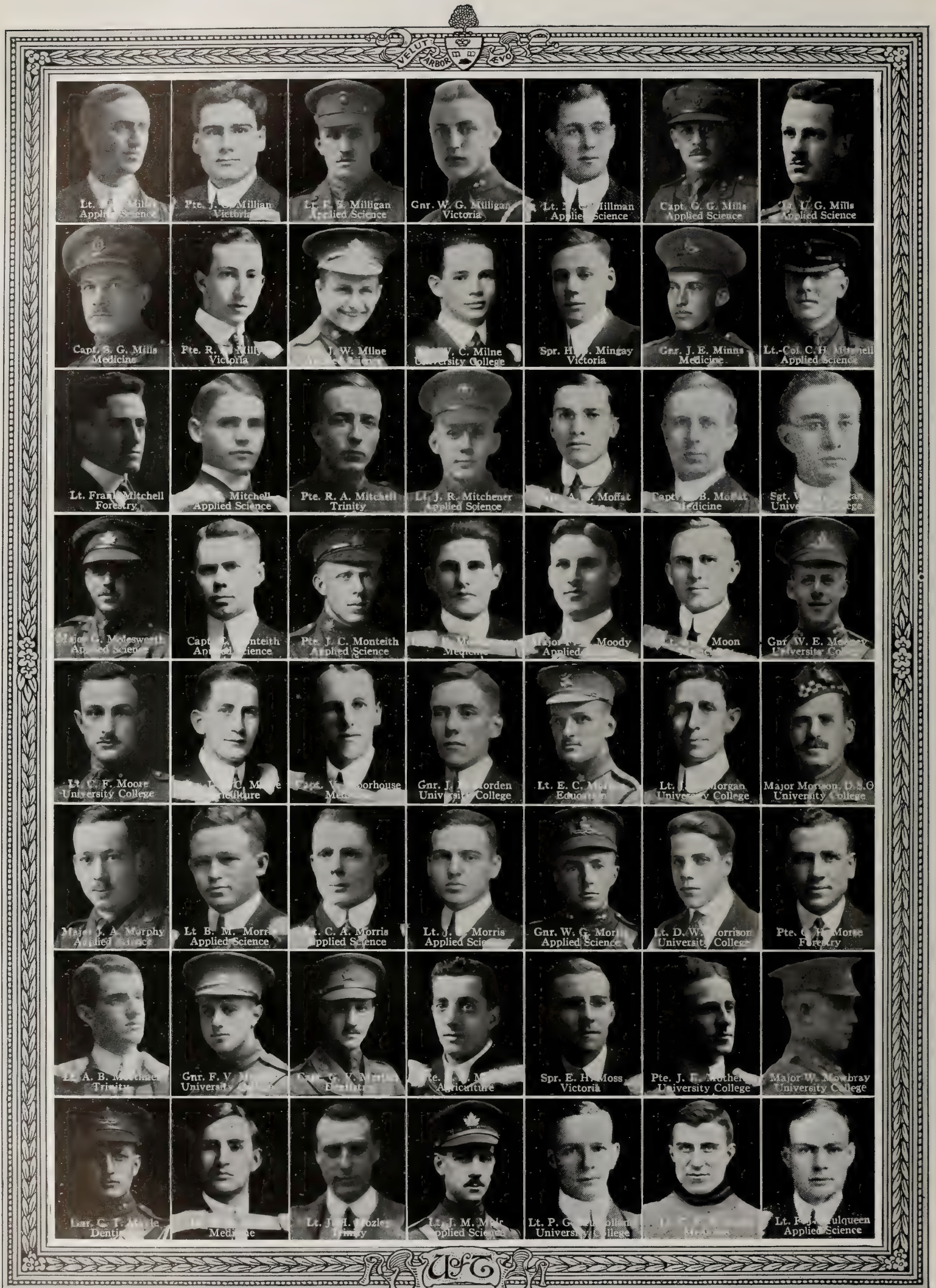
GRAND PARADE OF ALLIED TROOPS IN PARIS ON FRANCE'S DAY, 1916, IN

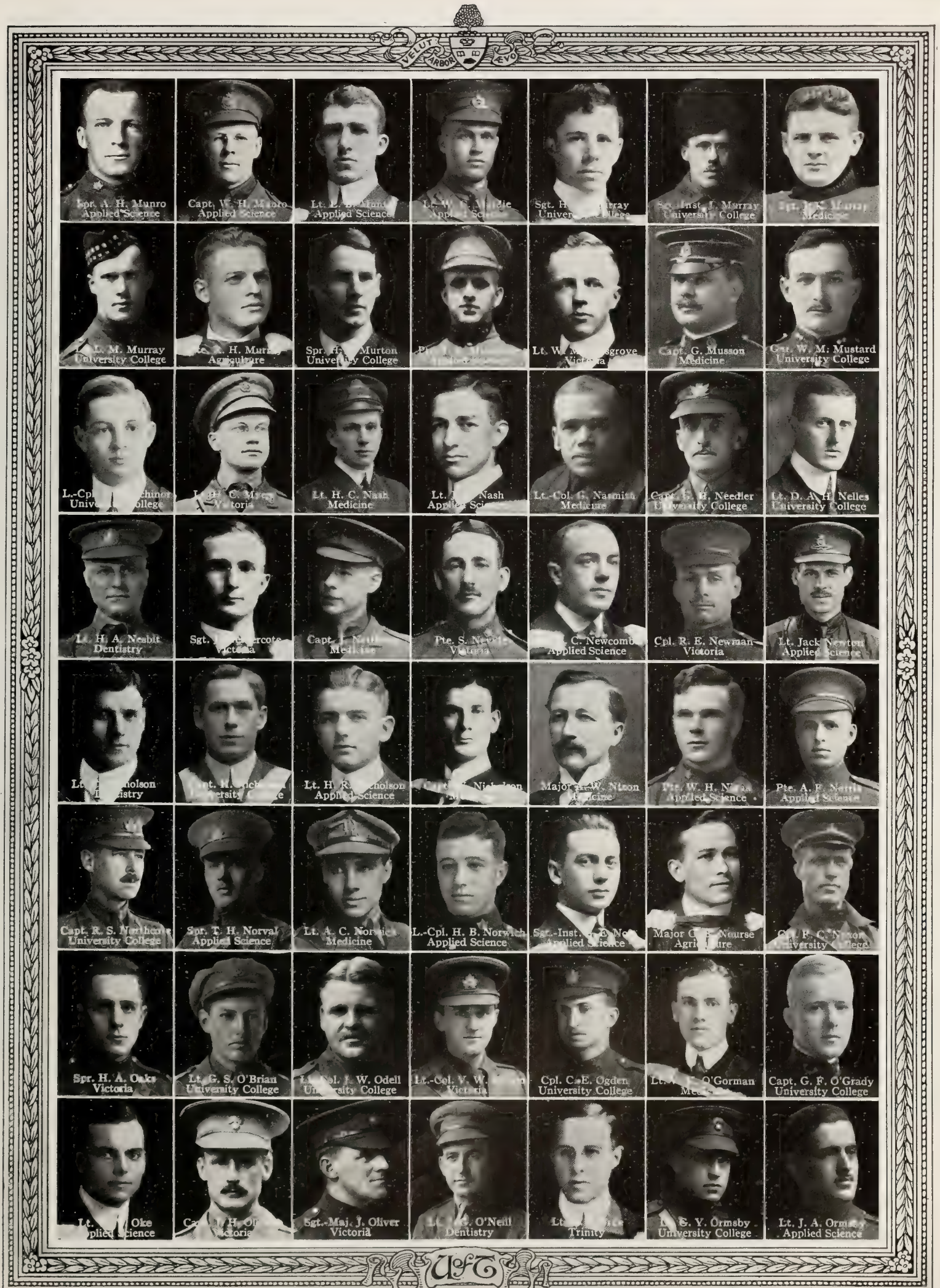


...ING FRENCH, BRITISH, CANADIANS, AUSTRALIANS AND SOUTH AFRICANS

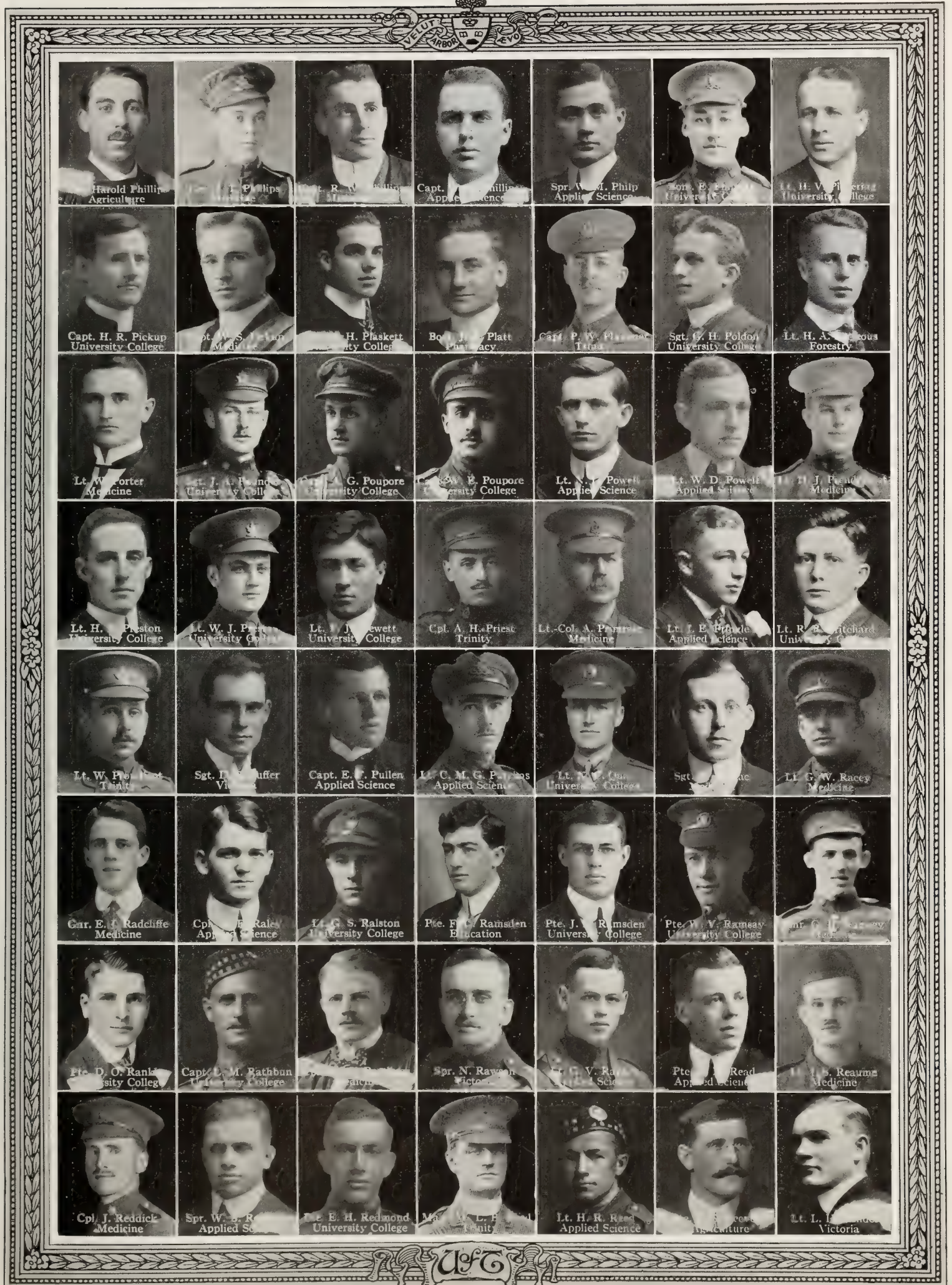


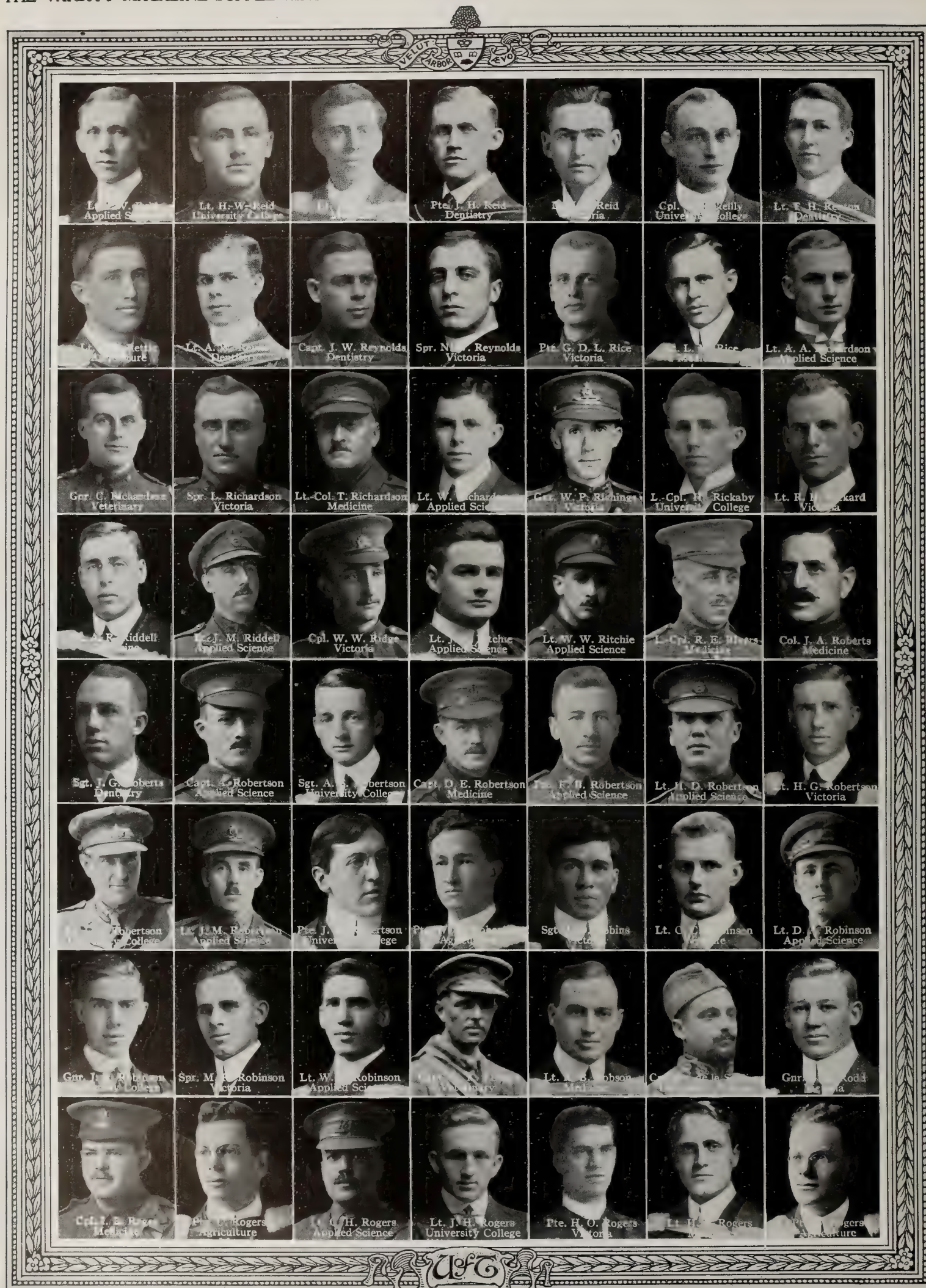




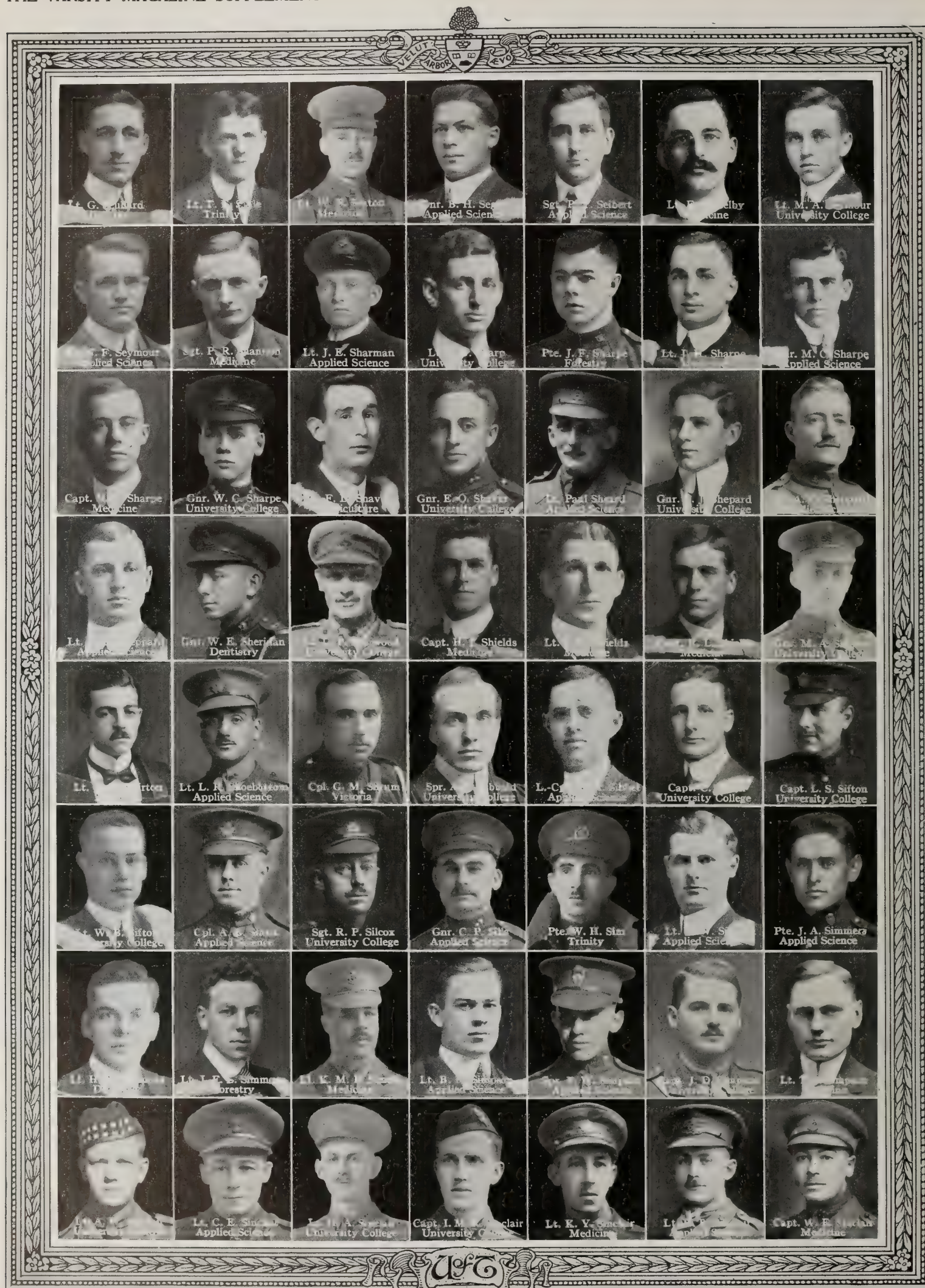








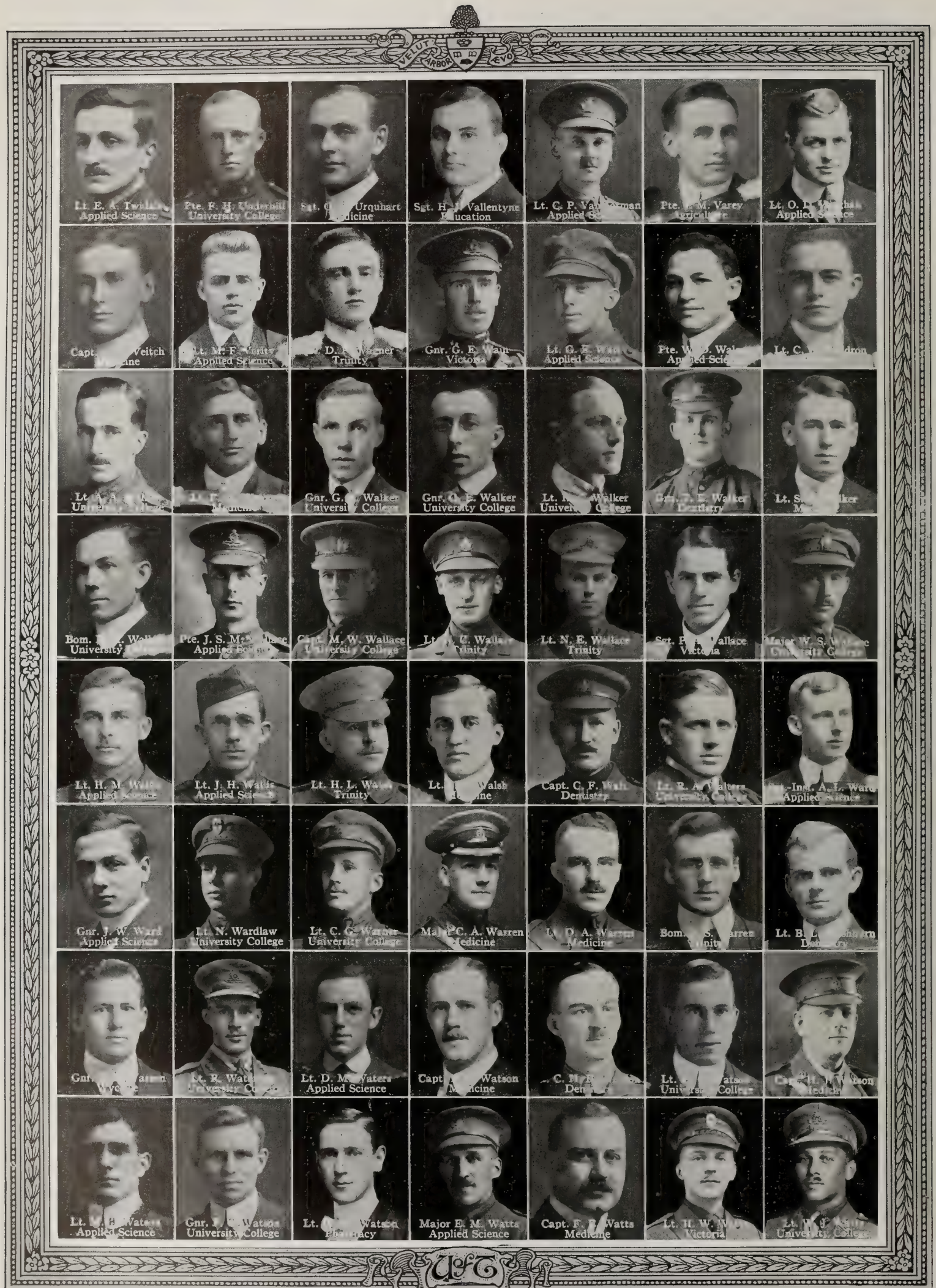


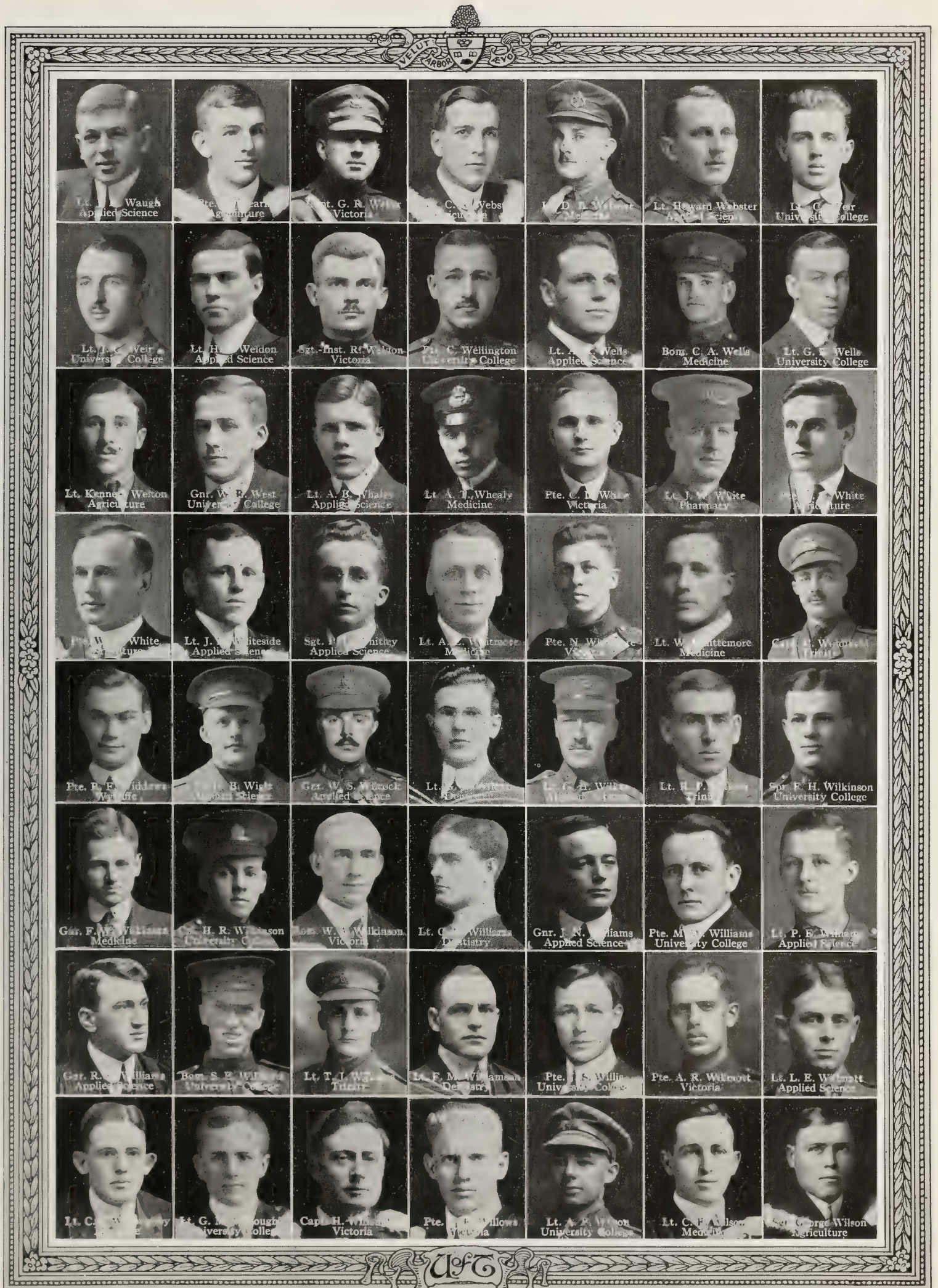


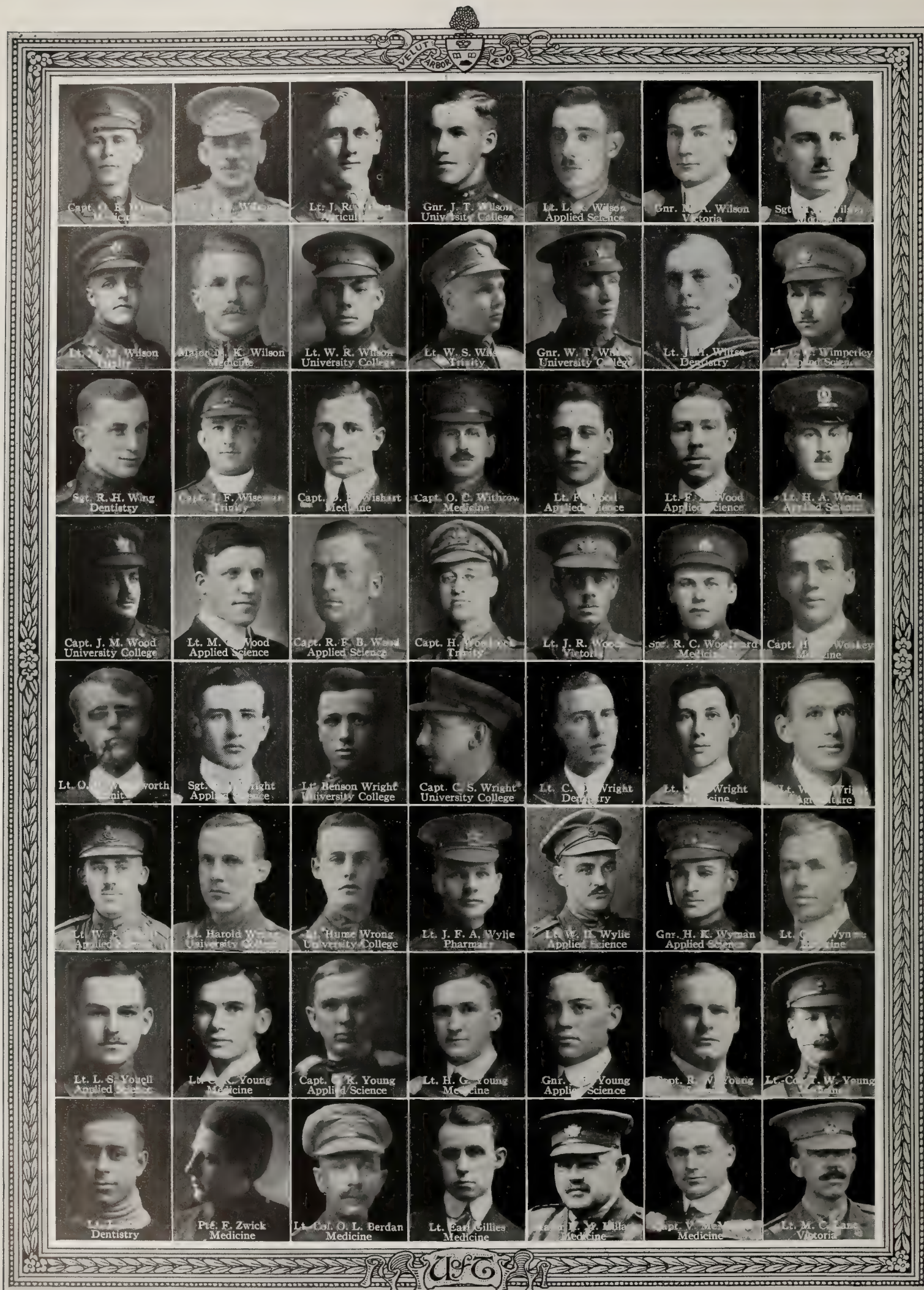












The Serbian People in War Time

BY STANLEY NAYLOR

"AND to think that this is really Serbia!" a young American Red Cross doctor complained to me bitterly when I met him at Skoplje in September. "Why, before I left America I thought life out here was such martyrdom that it would be a positive disgrace to return home alive!"

The poor fellow was obviously dejected. The trip, from his standpoint, he said, had been more or less a farce. From the graphic accounts he had read of her sufferings in the newspapers before his arrival, two months earlier, he had imagined Serbia to be a country ravaged by pestilence and disease, riddled by shot and shell, "the very seat of desolation." But alas for these preconceived notions! In reality, the panorama that unfolded itself was altogether different.

Like most people who arrive in Serbia for the first time, this young man had heard so much of her uglier side that he did not easily reconcile himself to the fact that to the outward eye she is wondrously beautiful. Frequently, as he had passed up and down the railway between Skoplje and Belgrade, he had been compelled figuratively to rub his eyes in amaze.

Time and again he had asked himself whether by some magic means he had not been transplanted back to his own Middle West. The surrounding scenery away from the towns was of quite astonishing loveliness. It was wild and romantic and had for the most part that background of mountainous grandeur so typical of Serbian landscapes as a whole; and it was at the same time, especially in the vicinity of Belgrade, delightfully pastoral. Fine, fat cattle grazed in the meadows. Much of the land was under good cultivation. There were fields full of corn, to say nothing of rich crops of barley, oats, and buckwheat. Yes, there could be no doubt about it. Serbia, seen in mid-September, seemed to be so essentially a land of plenty that it was hard to realize she was not, also, a land of peace.

Folk who saw the country before and afterward, however—for example, in February and March, when typhus raged among the people, and in October and November, when fast and furious fighting once more rent the land—were able to fathom the true depths of this Balkan tragedy more accurately. In the intervening summer months there came a lull in Serbia's vicissitudes. In this brief resting-space the little nation seemed almost to have smiled away her tears. The way in which she had so quickly recovered from the effects of her sad winter's tale was well-nigh a miracle; and, what was more miraculous still, this happy transformation had been the work of women and children.

"Our peasant women are national heroines. Serbia is under an eternal debt of gratitude to them she can never repay," M. Pashich, the Serbian prime minister, told me, as he talked of the astonishing fertility we saw almost everywhere around us. Son of the soil himself, the veteran states-

man went on to draw an intimate picture of how all day long thousands of valiant women had been out-of-doors doing the work of their absent men in the fields. To escape the heat of the midday sun, many of these Amazons were wont to start as early as three o'clock each morning, with their babies slung over their backs. Generally the little ones were placed in crudely improvised hammocks, near the spots where their mothers, aided by older children, toiled cheerfully away.

Thus, last year's crops were raised in Serbia, and since, with the pitifully primitive agricultural implements he still uses, it takes the average Serbian labourer two weeks to do what would be a mere half-day's work in the United States, this wartime task, left to his wife and daughters, seemed all the more incredible. Mercifully, the brave, toiling women had no vision of the wrath to come. A short time after the Bulgarian bombshell burst, one of them was found wandering in the hills near the Greek frontier, many miles from her native village. Together with her five children she had escaped from the little homestead she had worked with might and main to keep together just before the Bulgarians laid it waste. Amid

the confusion of the general exodus of the villagers, one of her children, a little girl of seven, was lost and had not since been heard of. Another, the baby, had died before the family reached safety. And now the poor mother was roaming disconsolate and distraught. A doctor pronounced her to be hopelessly insane. So much, then, for Serbia's women harvesters and that second harvest of war!

My own first impressions of Serbia were formed when, as a prelude to settling down there for five months, I accompanied Sir Thomas Lipton through the country on a fourteen days'

hustle. Not every man can claim that he has been personally conducted on a lightning Cook's tour to see war at first-hand.

We no sooner reached Belgrade than what practically amounted to free tickets were given us for what the citizens jokingly termed their "bombardment performances." Shells no sooner burst forth from the picturesque little town of Semlin, across the river, than we could, if we chose to brave the risk, mount to the top of the fortress in order to view the firing with more realistic effect. And in the *entr'actes* between these performances—which, curiously enough, had a knack of repeating themselves at fixed hours on appointed days of the week like theatrical matinées!—we had official permission to wander by the river's edge, where, looking through powerful binoculars, we could see thrifty Austrian housewives bartering in the market-place while the rest of the straggling populace sauntered up and down Semlin's main street. How near war then seemed to us! And, if the truth must be known, how ludicrous, too, was the main effect produced! In building their capital on a site which the enemy could shell so comfortably from his own door-step, the Serbians had obviously made a big initial mistake. The result was much as though



A background of mountainous grandeur typical of Serbian scenery

the city of Liverpool were waging deadly conflict with her friendly neighbour across the Mersey, Birkenhead, or as though Long Island were at war with New York.

In the brief but crowded space of those first four days we spent in Belgrade, several elaborate "war excursions" were planned in our honour. We began by inspecting the various batteries and intrenchments erected round the city. On mounting to the more prominent gun positions, some of us felt a trifle staggered to be told, with so little concern that we might have been examining marble statuary in the Louvre or the British Museum, how narrowly these guns had been missed by Austrian shells just half an hour before. "But our casualty list was not at all heavy," our guide, a Serbian officer, added consolingly. "Only two sparrows killed and one lizard wounded."

It was again our coveted distinction to be let into the then secret movement of a set of plucky young English naval men who, disguised in the uniform of Serbian officers, had come to Belgrade to manage a dashing little picket boat known as *The Terror of the Danube*. With Lieutenant-Commander Kerr—he has since been awarded a D.S.O.—at their head, these jolly sailors were having the time of their lives, for on dark nights it was the *Terror's* habit to dart into mid-river and play pranks with the fleet of Austrian monitors assembled majestically on guard near Semlin. This fleet was two hundred times the strength of the little picket boat. Any one of the monitors would have made very short work of her, if given half a chance. But dignity opposed to impudence does not always win the day. The *Terror* had a way of springing up unawares just when she was least expected. And that sometimes she could torpedo with the best of them was shown in the unmistakable evidences of wrecked monitors floating about the Danube for all Belgrade to see.

Our passports, as we travelled, proved to be equally elastic all along the line. No matter where we went—to the military headquarters at Kragujevatz, to the miserably overcrowded, disgustingly dirty, and dishevelled city of Nish, where the seat of the government had been transferred from the capital, to the more comfortable, sleepy-eyed Skoplje, formerly Uskub, which, Serbianized though it had been, obstinately retained the eerie Eastern charm of its old-time Turkish setting, or to the picturesque group of villages clustering round the Bulgarian frontier—always the curtain was lifted on persons, places, and things that would have been carefully screened from us had we been unknown wayfarers, journeying alone. And yet there was a reverse side to all these advantages.

Serbia, it is true, had turned the handle of her war kaleidoscope very gener-

ously for our benefit. We knew how irretrievably bombardment and invasion had spoiled the fair face of Shabatz, hitherto one of the wealthiest of her townships—how all the churches and public buildings in this district had been completely destroyed while the sufferings of the inhabitants

hardly yielded in frightfulness before those of Belgium. We knew, again, how great was the havoc wrought to Belgrade, that once beautiful city which had been every Serbian's pride—a sort of miniature Paris, the only one of his cities which could boast any claim to enlightenment and progress; incidentally, too, the only city rich enough to have installed an adequate system of sanitation. We knew that the mass of ruins at Belgrade now included the royal palace, the museum, and above all, the university, with which had perished half a century of research work, to say nothing of a world of thought. And we knew that the pinch of poverty was now felt there so acutely that thousands of citizens were living on three pence a day. From the royal family downward rigid economy had, perforce, become the rule throughout the land among all classes

of people. The veteran King Peter was living in a couple of rooms at Tapala, while the home of the crown prince was chiefly a railway-carriage, shunted nightly into a siding. Yet, while we knew all these things, there were still many other things we did not know.

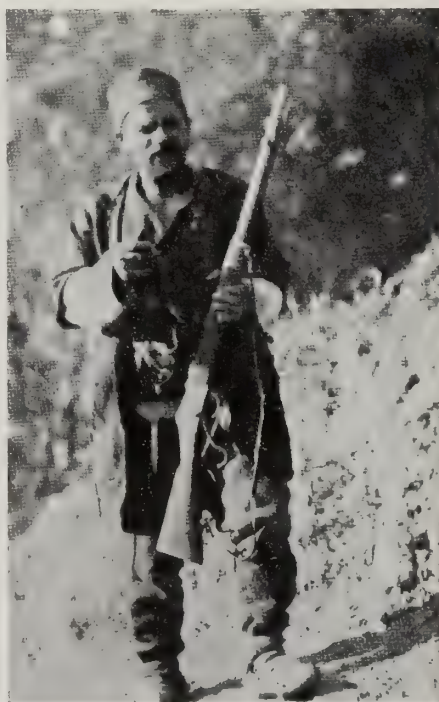
At the end of this Lipton pilgrimage my feeling was that, although she had permitted us to see just how she had suffered through war and epidemic, Serbia nevertheless had not really taken us into her confidence. She had shown us her outward husk but not her inner kernel. We had been conducted over her devastated war areas, her arsenals, and her hospitals for wounded soldiers, typhus sufferers, and the like, but we had not looked inside her cottages. We had talked freely with her princes, but we knew next to nothing of her peasants.

Like the rest of her Balkan neighbours Serbia is by no means an open book to be read by all who run as soon as they reach her gates. She is to some extent a paradox—a nation of warring truths. To understand her more thoroughly, a stranger must obviously stay longer in her midst. It was because I sought to know her better, that having gone as far as Athens on our homeward journey, I decided to turn back.

From Salonika to Nish, in my eagerness to get at grips with the Serbian peasant, to see the man with his kith and kin for myself at close quarters, I travelled third-class. The memory of that journey will ever haunt me. For the first twelve hours all went comparatively well. At any rate, a fellow passenger



When typhus raged among the people



Serbian peasant soldier on guard

assured me we were "not more than reasonably overcrowded." It was as night set in, after the train left Skoplje and we tried to compose ourselves for sleep, that the trouble began.

Constantly we stopped at little wayside stations to pick up more and more human freight. Looked at in the right light there was something saddening in the thought of herd upon herd of rustic travellers, many of them women and children, having to turn out of their homes at ungodly hours and tramp miles in order to catch the one and only train in the whole twenty-four hours that would take them on their way. And, as often as not, they had to set forth a long while in advance; for one of the difficulties about railway travelling in Serbia is that you can never tell to within six hours the precise moment a train will arrive. Jammed tight in the hard, wooden seat of that third-class compartment, albeit, I was too hot and uncomfortable to feel sympathetic and kind.

To realize the extent of my discomfort you must take several facts into account. Remember, first of all, that we sat eight and nine a side; that, since all windows were closed, we were some seventeen or eighteen people hermetically sealed in an air-tight compartment. Remember, too, that the majority of the passengers were Serbian peasants—men and women who have hitherto considered it to be the height of fastidiousness to wash more than a very limited number of times a year. The Serbian man peasant, indeed, has usually only two suits, one for winter and one for summer. Each suit is firmly stitched on to him by a devoted wife according to season.

It is at such moments a stranger sees how far Serbs have to travel; that the great curse resting on them is a pagan toleration of filth. Among those who have made a valiant effort to help eradicate it, the work of the army of American Red Cross doctors, sent out from Washington after the fearful typhus epidemic, under Dr. Richard P. Strong of Harvard, must not be forgotten. For several months, right up to the moment when hostilities blazed forth afresh, Dr. Strong and his workers—Strong's army, as they were called—tried hard to initiate an "Order of the Bath" in Serbia. They not only disinfected the unsanitary homes of countless peasants; they instituted sanitary cars, bathing in which was made compulsory by Act of Parliament.

Happily, it is of the finer rather than the sordid side of Serbia we all now think. To-day the whole world has nothing but wonder and praise for the splendid fight the little nation put up when she was attacked by three fronts in that final cataclysm last autumn. The Serbs then made a stand which, as an epic of bravery, is more Homeric than Homer. Wonderful is a big word, but it is not too big to fit them. And even before this great onslaught they had proved themselves wonderful many times over. They had been wonderful, first of all, in the stoicism—one had almost said, gayety!—with which they had borne the heat and burden of over four years of war. They were wonderful, again, when in that first moment of the European conflict they successfully drove 500,000 Austrian invaders from their territories and took 62,000 of them prisoners into the bargain. And, perhaps, they were most wonderful of all when, before Bulgaria declared her hand in October and Germany and Austria still

refrained from striking a decisive blow, they "stood like greyhounds in the slips waiting for"—well, they knew not what.

Toward the end of these ten months of masterly inactivity there was to me something impressive and grand in the picture of these stout-hearted men of Serbia—massed round the little nation's borders—waiting, always waiting. Several hours daily for nearly a year many a Serbian private soldier had known what it was to stand there rigidly on guard, glued like an automaton to his post, his face stolidly inscrutable, but his heart yearningly aflame to be once more up and doing. "I'm dead sick of having to wait," a private told me when I talked with him while off duty, through an interpreter who, having lived in America, was able to translate very readily. "If only we could have another whack at 'em! I'm just longing for the war to end. You see, I haven't seen my wife and children for three years. My home is so far away and we have been so everlastingly fighting or expecting to fight that I have never had a chance to go back."

And if such was the lot of some of Serbia's first-line soldiers still in their prime, what of those veterans of the third and fourth lines to be found guarding the remoter places less liable to attack? These grizzled warriors were generally cheerful. Yet for them, also, life held more than its fair share of irony. "Of course, I'm only scrap-iron—too old for the firing line," one of them confessed to me. "I'm fifty, and I've been in the army thirty-three years. In Serbia, you know, we start serving at seventeen and finish at fifty-five." "Then in another five years you will be free?" I ventured encouragingly. "Yes, in another five years I shall be free all right," he replied; "but please don't forget, sir, *I shall also be fifty-five*."

But not for nothing has the Serb been called "the Irishman of the Balkans." His temperament is mercurial and his moments of depression soon slip away. One of his most charming characteristics is a complete

freedom from malice. Hard fighter though he is, it seems constitutionally impossible for him to bear hatred for long; and although he far from loves his enemy on the battle-field, any animosity he feels toward him vanishes like lightning as soon as he takes him prisoner. To strangers travelling through the land last summer nothing was more amazing than the sense of comradeship which existed between the Serbs and their Austrian captives. Captives, forsooth! Some of them openly gloried in their chains.

That the lot of a private in the Serbian army, no matter how far he might be from the firing line, was often worse than that of an Austrian prisoner, first struck home to me at Belgrade when in the main streets I saw a peasant soldier bargaining with a prisoner for a loaf of bread. The soldier had just reached the city, weary, worn, and more than a trifle footsore, after a long cross-country march. The one solitary loaf, which was all his daily ration comprised from the military authorities, had long since been devoured. The poor fellow was obviously hungry and in need of another. The Austrian prisoner, on the other hand, with a cigarette between his lips, looked sleek and well-fed. Yet the bargain between the two was completed in the friendliest spirit, and cash down was paid for that extra loaf.



"Stood like greyhounds in the slips"

When I asked a Serbian soldier why prisoners of war were treated so leniently by his country—being left to wander at large unmolested like one of themselves—he replied that the great majority of the captured Austrians were of their own kith and kin. They were of Slavonic origin and had no heart in this war. With them it was simply a case of Hobson's choice. They had either to fight for Austria or be shot. Evidence of their curious detachment in the struggle was given in that, since the opening of hostilities, many of these so-called "Austrians" had fought valiantly and well *on both sides!* On being taken prisoners, they had at once re-enlisted under the Serbian flag!

But while this explanation held good in the case of Slav prisoners, how came it to pass that throughout the country one constantly met German-Austrians and Magyar Hungarians who were almost equally fortunate in the treatment meted out to them? Consider the generosity shown to that small minority of prisoners who were considered too dangerous to be allowed at large. The big internment barracks in which these enemy officers were quartered at Nish were a veritable *hôtel de luxe*. The accommodation provided for the officers of the Serbian army was not nearly so lavish. Separate kitchens were run, so that the Germans, Hungarians, and Croats could each have their food cooked in the style most pleasing to their respective fastidious palates. And there were several acres of beautiful grounds in which the prisoners could rove at will. They played tennis and other outdoor games while, escorted by a Serbian guard, they often went on picnics and excursions in the surrounding countryside. Some of them, well-known Hungarian artists, were daily to be seen with Serbian soldiers in attendance, sketching the landscape in and around Nish. And as with the interned officers, so with the interned men in the ranks: they were infinitely better housed and better fed than the Serbian troops in training a stone's throw away.

Although openly hostile to the Serbian cause, prisoners were frequently found again in civilian occupations at good rates of pay, and except that they had periodically to report themselves to the authorities, they were allowed to live practically as free men.

Many Londoners visiting the leading restaurant in Nish were surprised to recognize installed there as *maitre d'hôtel* an Austrian who for many years had been a waiter at the Carlton Hotel. This old-time friend seemed as happy and cheerful as ever. He was just as well-groomed as in his palmy Carlton days. Looking at him, you would never have judged him to be an Austrian prisoner out on "ticket of leave." "When the war is over, I hope to meet you all in the same old spot," he told his English customers hopefully.

Common sense, of course, was at the root of Serbia's policy in placing her prisoners in occupations to which they were peculiarly fitted. At a time when the country was denuded almost entirely of her male population, the flower of her manhood being away with the army, why should not the trained services of her sixty-two thousand odd able-bodied Austrians be turned to profitable account? So, no doubt, Serbia argued, and therein lay one explanation of the humanity and kindness she showed to every prisoner who was willing and able to fill a definite place in the working life of the community. And so, too, it followed

that all over the country one found Austrians, skilled at their business, who were employed on a fair financial basis as mechanics, engineers, tailors, and bakers—in fact in well-nigh every conceivable trade; while, without the aid of prisoner orderlies, it is now universally admitted that most of the war hospitals in Serbia could never have been run.

So far as possible each prisoner was given the job that suited him best. There was something Gilbertian in the situation that nightly at Nish and Skoplje sweet music was distilled in the open air, quite as though the fashionable German and Austrian spas had been transplanted to Serbia, by those captives who happened to be professional musicians. But not unnaturally among so many thousands there were occasional human misfits. It appeared to be rather a hardship, for instance—although it may strike some minds as ironically appropriate—that the gentleman who in peace time had been professor of mathematics at Prague University was mainly engaged in counting the dirty linen at a big hospital in Kragujevatz. And a Vienna merchant, who informed me his normal income had never been known to amount to less than the equivalent of three thousand English pounds sterling a year, fulfilled the duties of bootblack in the same institution.

I happened one afternoon to be in a little town when a young German aviator literally dropped down from the skies. In charge of what were believed to be important papers bearing on the Dardanelles campaign, this flying Teuton had come from Mehadia, near Orsova (on the Hungarian side of the Danube near where Serbia, Hungary, and Roumania meet). His intention was to fly to Bulgaria and then go on to Turkey by train. But his proud hopes were dashed. At first, all went swimmingly. According to his own story, he flew over Nish at a height of 6,000 feet. Then, two hours later, when near the Bulgarian frontier—so near that



The Serbian man peasant



Peasants outside their huts



Peasant women arriving at Dr. Costellani's clinic

he cocksurely imagined he had crossed the border-line!—his engine gave out and he came down to earth with a thud, only to find himself still in Serbia and soon in the custody of two stalwart frontier guards, who marched him off to this nearest wayside town.

In almost any other country but Serbia this dramatic *débâcle* of an enemy airman would have meant a bitterly hostile demonstration. To say the least, there would have been frantic hisses and boos. But the Serb, when once he has captured his prey, is good-natured. The advent of this unexpected visitor hardly aroused more than the ripple of laughter with which most country people greet the arrival of a travelling showman or clown. Among other things, his equipment included a plentiful supply of visiting cards, and these were clamoured for as souvenirs by the amused townsfolk. Otherwise, there was little excitement.

The authorities had doubts as to what kind of hospitality to give to so unusual a guest; and it was eventually decided to accommodate him for a night or two in the town's best hotel—where, as luck would have it, I too was quartered. After the evening meal in the little inn restaurant this German captive seemed thoroughly to have recovered his equanimity, if he had ever lost it. Stolid in his exterior, he was voluble enough in his talk. Gradually the company gathered round his table and a merry evening was spent. For the nonce the Serbs were disposed to bury the hatchet. They treated the intruder with the utmost friendliness, as one of themselves.

Side by side with these side-lights on the innate chivalry of the Serb, place the irrefutable proofs that abound of his bravery on the battle-field, and you soon realize that, despite history, he springs from a stock of which heroes are made. Difficulties do not daunt him. Instead, they fire his blood. In the recent fighting one section of the army's long front was held by the courage of a single man. Of his comrades serving the machine guns he alone survived. But he did not withdraw. He continued to work his gun with such fiendish energy that at last the advancing enemy, not realizing that he stood alone and fearing a trap, hastily retired.

"Victory is not won by shining arms but by brave hearts," runs the Serbian soldier's guiding maxim, and even when in the past victory has been his, he has had, perforce, to live up to it. Since many Serbian officers contrive to cut quite a formidable dash on seventy pounds a year, it follows that the uniforms and armour of men in the ranks are not exactly glittering. The only allowance they get is a very few dinars a month, together

with one loaf of bread and one hundred rounds of ammunition a day. And unless they are first-line soldiers they fight in their peasant dress. The homes which many of them left last year seemed almost too wretched to fight for. Yet they still went on fighting—for the unification of all Serbian-speaking peoples, for what is known in Serbia as the Yugoslav ideal. To them the thought that Serbia should be vanquished was simply unthinkable. Patriotism, an all-consuming love of the land of their forefathers, was practically the only religion they knew and understood. Provided they held fast to their faith in the salvation of Serbia, they felt all would be well. Inevitably their enemies would go to the wall.

Next to the love of his country the peasant soldier places his love of a woman—or, perhaps, it would be more accurate to say, all women. In the famous folksongs which he composes extemporaneously, and is heard singing day and night, his theme is invariably either the glories of war or the charms of some

fair maid. In Serbia the lad who has not been deeply in love by the time he is sixteen is reckoned to be, indeed, a fool. The Serbian peasant places woman on a pedestal—*until he marries her*. Then she who was his divinity quickly becomes his drudge.

"And this—God forgive me!—is my wife," is the habitual formula used by a peasant if forced to introduce the woman of his choice to you. He is, however, passionately fond of his children. In Serbia the humblest child is an *enfant gâté*. One day, while I was staying at a hospital at Vrnjatchka Banja, a wounded soldier, whose leg had been amputated, was visited by his wife and child. The father greeted the little one rapturously, while his wife, her face full of the tenderest solicitude and sympathy, stood meekly aside. At length, turning from the child to the woman, he seized her by the hand and asked gruffly: "Well, Milka, my girl, have you brought me something nice to eat? How's the cow?"

The Serb, in his whole conception of womanhood, is unblushingly Oriental. It seems, then, to be a comic stroke of fate whereby feminism has lately scored a notable triumph in his midst. The women most vital in nursing wounded peasant soldiers back to health and strength have been in many cases suffragettes—women of an emancipated viewpoint in direct antithesis to that of their patients. Several of the most efficient war hospitals in Serbia have been conducted by feminists as all-women institutions, no man being employed where a woman will do.

To Kragujevatz, Mrs. St. Clair Stobart brought a hospital unit, "manned entirely by women," as an Irishman would say, even to doctors and orderlies. Forty-five Englishwomen in



Nurses and patients at the All-Women Hospital at Kragujevatz

all—just think of their pluck! Unaided, they managed to rig up a field-hospital of sixty-five tents in hard, mud-caked fields. Furthermore, they applied to this open-air encampment hygienic and sanitary measures that would do credit to many an indoor New York hospital. The camp included a fully equipped operating theatre, an X-ray department, three kitchens, commodious stores, and several baths—all of them modelled on the most modern lines.

On her arrival in Serbia, Mrs. Stobart claimed that the chief advantage of this All-Women Hospital was its mobility. On little more than half an hour's notice the whole camp could be quickly brought within reach of an advancing or retreating army at almost any given point. She guaranteed, too, that even the manual work of pitching and moving the tents could be undertaken by her unit with little or no help from men. How, then, reduced to practise, did her theory work out?

From an unexpected quarter the unit was given a chance of showing how rapidly it can move. Just before the five-o'clock reveille bell one morning the whole camp was aroused by the violent explosion of a bomb close at hand. They rushed out to find three aeroplanes—one Austrian and two German—encircling them overhead. Was the enemy bent on performing the feat of exterminating the women's field-hospital? For a time it looked suspiciously like it. Then whir, whir—that old sound, familiar to Mrs. Stobart and others of her unit who had been in Antwerp—was followed by a loud crash and the usual smoke and *débris*. Fortunately the bombs fell not within the camp but a few yards from its outer radius.

"Forewarned is forearmed," said Mrs. Stobart, as she told me this story. "Our white, gleaming tents were evidently an excellent target, and obviously we had to contrive some means to frustrate the enemy's possible designs. We set to work on a scheme of evacuation, and were quite glad to put it into effect when we received from the military headquarters at 6 a.m., a few days later, a message that enemy aeroplanes had been sighted over the frontier and were expected to reach Kragujevatz in an hour's time. Within half an hour of receiving that message we had cleared the hospital of 130 wounded soldiers. Those who could walk or hobble had been sent with nurses and orderlies a kilometre along the road adjoining the main hospital tents, with instructions to lie down when aeroplanes were sighted, while the helpless cases were placed on stretchers on the automobiles and ox-carts and taken in small groups along the main road to safe distances from the camp. The tents, too, were taken down, but we quickly put them up again and reinstalled our wounded when another message came through that the aeroplanes had thought better of their intentions and had turned back after crossing the frontier. Please don't think the incident was wasted. It made a fine dress rehearsal."

It was a dress rehearsal, too, which proved of full value when, shortly afterward, this All-Women Hospital encountered the real thing in war. On the re-opening of hostilities, Mrs. Stobart split up her unit into squads, which then moved up to different positions where they could best tend the dying and wounded behind the firing line. And thence forward these gallant "women-soldiers" had constantly to pitch and re-pitch their tents, following in the wake of that section of the retreating army to which they were attached. It stands also to Mrs. Stobart's credit that in the long lull in fighting, last year, she seized the opportunity to found roadside dispensaries in outlying Serbian villages, where the civil population—and more particularly the women and children—could be treated. And in the region of Skoplje, the same plan was adopted by the American Red Cross Sanitary Commission, with the famous expert in tropical diseases, Dr. Aldo Castellani, in command.



Sick peasants waiting outside a roadside dispensary

To watch the sick peasants waiting outside a roadside dispensary was to be given an illuminating insight into their isolated lives. From dawn till sunset, men, women, and children would arrive, the victims of every conceivable kind of disease. Some of them, never having been able to consult a doctor before, would walk from fifty to a hundred miles across country for the privilege. That, weak and ill, they could perform such big walking feats, seemed impossible to believe. One woman I saw had walked twenty miles with a condition of the neck and throat that would make a civilized being think twice about crossing a room. Another, suffering from cancer, had ridden on horseback on a journey lasting several days, while other patients came in ox-carts or, if too poor to afford even that mode of travel, were strapped to the backs of donkeys. One grimly stolid-looking peasant brought two children delirious with diphtheria. His wife and two other children were lying dead at home.

The way in which these destitute, stricken people sought to express their gratitude was not without its touching side. Many of them would bring bunches of flowers gathered by the wayside on their long and tedious journeys. Others, at the American clinic, were distressingly anxious to give the eminent Dr. Castellani his fee in coin. For the medicine he prescribed they tried in vain to induce him to accept a penny or two-pence—probably all they had.

Such flashes of self-respect and pride, revealed by the most submerged of Serbia's population in the face of poverty and pain, are an earnest of the spirit and temper of the race as a whole. No matter how poor he may be, the Serb still remains proud. "Our enemies may trample over our bodies, but stamp out our spirit they never will!" M. Pashich declared lately when the outlook was at its blackest: "Better far for us to die in beauty than to live in shame!"

Whether the Allies have cause to reproach themselves for the crucifixion of Serbia is a question now often publicly raised, even by critics within their own camp. If diplomatic wits had been sharper to apprehend the nature of the Bulgarian menace, if Anglo-French forces had arrived earlier on the scene, could the little country have been saved the unspeakable tribulations and anguish of that last big life-or-death fight? These points future historians must decide. Certainly, all last summer, it was common knowledge in the Balkans that the trouble brewing between Bulgaria and Serbia must soon come to a head. When in August, I visited the picturesque little hamlet of Strumitza, on the edge of the Bulgarian frontier—the very spot where two months later

the Serbo-Bulgarian conflict waged fiercest—I was invited to luncheon by the colonel of Prince Michael's regiment, which had then some 2,000 soldiers stationed in that village. The colonel was quartered in an old château, charmingly French in design. The property had formerly belonged to a rich Greek miller, but on the outbreak of war he fled, having been adding grist to his mill as a highly paid German spy.

Our meal was served to us under the trees in an old-world garden and as the ball was set rolling, the grim stalking-horse, War, seemed far enough away. Yet, all the while, a few paces behind mine host's chair, two armed peasant-

soldiers stood watchfully on guard. At first, you were inclined to doubt whether this was a strictly necessary precaution. Was it merely for show? Then you recalled just why this regiment was stationed here. A few weeks before, a mysterious band of Bulgarian comitadges (outlaws), descending suddenly on the village, had killed 40 Serbian soldiers and, after extracting their brains, had stuffed their heads with peas. The Bulgarian Government disclaimed responsibility for the ugly episode. Still, coming events cast their shadows before.

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Honours Conferred on Varsity Men in the Great War

Since the beginning of the European conflict Varsity men have been honoured in the various theatres of war in recognition of their service and valour in the allied armies. The following list of honours covers the period from August 1914 to September 1916.

C.M.G.

Col. J. T. Fotheringham, A.D.M.S.
Lieut.-Col. G. G. Nasmith.

C.B.

Brig.-Gen. M. S. Mercer.

D.S.O.

Lieut.-Col. C. H. Mitchell, G.S.O.
Lieut.-Col. V. W. Odium.
Major W. W. Denison.
Major T. C. Irving, C.E.
Major C. H. MacLaren.
Major D. H. C. Mason.
Capt. C. E. Kilmer.
Capt. F. Morison.
Capt. E. R. Street.
Lieut. Douglas Hallam.
Lieut. Spencer Reid.

MILITARY CROSS.

Col. G. C. Kidd.
Major P. P. Acland.
Capt. J. A. Cullum.
Capt. H. W. A. Foster.
Capt. A. J. Gilchrist.
Capt. J. E. Hahn.
Capt. A. K. Haywood.
Capt. M. H. Patterson.
Capt. W. E. Phillips.
Capt. V. F. Stock.
Lieut. J. C. Auld.
Lieut. P. W. Beatty.
Lieut. G. W. Crow.
Lieut. C. T. Galbraith.
Lieut. F. R. Hassard.
Lieut. H. A. Heaton.
Lieut. H. F. H. Hertsburg.
Lieut. Peter McKibbin.
Lieut. J. H. Ross.

D.C.M.

Sergt. M. J. Aiken.
Sergt. (now Lieut.) W. H. B. Bevan.
Sergt. C. B. Ferris.
Cpl. (now Major) C. B. Nourse.
Cpl. A. C. Oxley.
Pte. (now Lieut.) C. K. Hoag.
Pte. J. E. McGillivray.

KNIGHTED BY THE KING OF ITALY.

Chevalier W. E. Doherty.

CROSS OF THE LEGION OF HONOUR.

Lieut. C. S. Wright, R.E.

CHEVALIER DE LA LEGION D'HONNEUR, CROIX DE GUERRE AVEC PALME.

Capt. L. A. Bibet.

LA LEGION D'HONNEUR CROIX D'OFFICIER.

Lieut.-Col. C. H. Mitchell.

LA LEGION D'HONNEUR CROIX DE CHEVALIER.

Capt. G. A. Cline.

CROIX DE GUERRE.

Capt. J. A. Cullum.
Lieut. E. Poplar.
Sergt. C. B. Ferris.
Cpl. C. E. Rochereau de la Sabliere.

CROSS OF ST. GEORGE.

Lieut. C. P. Cotton.

ROYAL RED CROSS.

Matron E. B. Ridley.

MENTIONED IN DESPATCHES.

Major-Gen. M. S. Mercer.
Col. J. T. Fotheringham.
Surgeon-General J. A. Roberts.
Lieut.-Col. J. J. Creelman.
Lieut.-Col. E. B. Hardy.
Lieut.-Col. C. H. MacLaren.
Lieut.-Col. D. W. McPherson.
Lieut.-Col. C. H. Mitchell.
Lieut.-Col. G. G. Nasmith.
Lieut.-Col. V. W. Odium.
Lieut.-Col. A. E. Ross.
Lieut.-Col. D. M. Sutherland.
Major J. A. Amyot.
Major W. Beattie.
Major P. G. Brown.
Major J. J. Fraser.
Major T. C. Irving.
Major W. T. M. McKinnon.
Major A. E. Snell.
Major George Vansittart.
Matron E. B. Ridley.
Capt. J. J. Bell.
Capt. H. H. Burnham.
Capt. A. J. Gilchrist.
Capt. J. E. Hahn.
Capt. A. K. Haywood.
Capt. J. R. Irwin.
Capt. H. B. Jeffs.
Capt. A. H. McGreer.
Capt. T. H. McKillip.
Capt. A. C. Ryerson.
Capt. C. B. Saunders.
Lieut. S. S. Burnham.
Lieut. E. A. Greene.
Lieut. G. E. D. Greene.
Lieut. T. D. Hallam.
Lieut. R. G. Hamilton.
Lieut. H. F. M. Hertzberg.
Lieut. P. A. Laing.
Lieut. M. E. Malone.
Lieut. H. H. Owen.
Lieut. G. W. Racey.
Lieut. J. G. Weir.

"It is by presence of mind in untried emergencies that the native metal of a man is tested."—LOWELL.

"Gloucester, 'tis true that we are in great danger;
The greater therefore should our courage be."—

SHAKESPEARE.

What is Back of the German Mind?

By PROFESSOR A. B. MACALLUM, F.R.S.

WHAT is back of the blackman's mind, or of the mind of the Japanese or the Chinaman?

This is a question an anthropologist or ethnologist would ask when he would put himself to the task of explaining the conduct of the Negros, the Japanese or the Chinese as a race. The answer in the case of the negro would have to take account of the fact that for hundreds of thousands of years the blacks have lived in tropical Africa a life apart from the white and other races, and this has given his mind an ethnic content in the mazes of which it is practically impossible for the keenest, most penetrating alien mind to do more than grope for an explanation of his point of view. What is back of the Japanese or Chinese mind is almost as difficult of indication, for thousands of years of history in either case have moulded the racial psychology, which though intangible and elusive, is an all-important factor in determining not only its own ethics but also its relations to other races.

This racial psychology plays its part in intertribal or international affairs amongst the white races also. The history of the Balkan peoples for the last thousand years clearly demonstrates this, but the general history of Europe is a long tale of struggles between contending racial psychologies.

The great war of to-day is a conflict of psychologies or forces, subliminal, unanalysable in great part, which have developed as a result of the history of the different races or nations involved.

Thus far the thesis as indicated may be accepted by all, although the general form in which it is stated may make it appear as commonplace in the explanation of the origin of the present struggle. One may not, however, dispose of this thesis thus summarily, for that would be to ignore one of the most fundamental factors in the conduct of Germany.

The long and carefully planned tiger-like leap on France, the utter brutalities and bestialities of which the German armies have been guilty in Belgium, the torpedoing of the "Lusitania" and the drowning of more than a thousand non-combatants, including women and children, the public holiday allowed in Germany to school children to rejoice over this horror, the contemptuous disregard of treaties shown by Germany, these and many other incidents show that there is in German psychology a type of mentality which must be considered, if not aberrant, at least not representative of the mind of the white race.

It is commonly held that the calculated brutality shown by the German authorities in this war is the result of the teachings of such as Treitschke and Nietzsche, whose cults of force and the "superman" have, it is claimed, been generally adopted by Germans, and which imply acceptance of brutality and bestial outrage in war as necessary to advance national ends. That these two writers have had some influence on German thought and ideals may be conceded, but it has been a most superficial one, and, had they never lived or taught as they have done, the character of the German mind as it is now manifested would have been the same.

The view is also advanced that the brutalities show that the German is barbarous, brutal, uncivilized; not to be classed with the other nations of the white race, and at least a thousand years behind in the culture that is the pride of the highest representatives of the human race of to-day. To say, however, that the German is barbarous does not explain his part in the present conflict. One may, indeed, readily grant that the German who typifies the Germany of to-day must be barbarous and brutal, but in so classifying him, one is stating a fact, which is not an explanation. The problem involved is a deeper one. Why is it that a race, which has existed at least for two thousand years in Europe, should be guilty of conduct which characterized the Goths, Huns and Vandals

in their most extreme excesses? The answer to this question is the answer to the question: "What is at the back of the German mind?"

The answer to this again is to be found in the history of Germany since 1618. This history has been more or less disregarded because of the achievements of the German mind in literature, philosophy, music and science, and when it is recalled it is dismissed as the indescribable medley of the story of the Thirty Years' War, the Seven Years' War and the Napoleonic wars, the effect of which on the Germans, as a race, has not been understood by the vast majority of the writers of other nationalities, who have discussed this war and attempted to account for the extraordinary manifestations of the German mind which it has evoked. The Germans themselves do not go to the trouble of accounting for their own psychopathic condition any more than the average insane individual explains why he is insane. They do not dream that they are abnormal, and why therefore should they explain what appears to them as quite normal? Nevertheless, the history of Germany for the last three hundred years has made the mind of that race to such a degree abnormal, that it to-day approaches the type of mind that must have dominated the tribes of Europe in Neolithic times.

In thus indicating the character of the mind of the German race of to-day, I do not wish to be understood as sweepingly condemning every German as abnormal. I believe, indeed I know, that a great many Germans regard this war as a disastrous affair for Germany, and the brutalities of which she has been guilty as banning her from the fellowship of civilization. They cannot speak, are not allowed to speak, because of the terrorism and repression that is exercised by the ruling class to-day. After the war is past we shall hear from them. That will be too late to extenuate their present attitude, but, if they freely expressed themselves to-day, the result would be the same for the situation is wholly beyond their control.

Why should three centuries of history throw a race back into a Neolithic state of mind? While the human race has existed for one or two million years, the European divisions of it emerged from a state of barbarism only about three thousand years ago, and in this time they have not wholly lost the traits and tendencies of mind developed in the long night of savagery that preceded the dawn of civilization. Three centuries, nay, one century only, of savage history may destroy the humanizing forces which the previous three thousand years of civilization had fostered.

Those three hundred years, and especially the first three decades of them, furnish a story of brutality and savagery that has never been paralleled in the history of mankind. Utter savagery and ruthless extermination must have prevailed in prehistoric days, but it is difficult to imagine that there ever was previously anything so appalling as the Thirty Years' War.

Before 1618 what is now Germany consisted of at least three hundred states, free cities and communities, all more or less independent, each with its estates, diet or popular assembly, deliberative and ruling, and a civic freedom consequently as great as the English enjoyed at the time. The German cities and towns then were known throughout Europe for their order and decency, their picturesque walls and smiling gardens, their joyous life and prosperity. In the country also, life was tolerable, and the peasantry was very prosperous and contented.

Across this land with all its charm and happiness war began to stalk in 1618, and for thirty years without cessation the people in the towns and country were subjected to all the horrors of a conflict in which every dictate of humanity was ignored. The war had its origin in the desire of the League, a Catholic organization at the head of which was the Habs-

burg Emperor, to compel the return of the Protestant portions of Germany to the Catholic faith, and, of necessity, this brought into the war on the Protestant side Sweden, under King Gustavus Adolphus. It was waged by mercenary soldiers, Croats, Walloons, Poles, Spaniards, Magyars, Frenchmen, Danes and Transylvanians, who spared not. Murder, rape and all crimes of violence were systematically committed and under leaders who encouraged or allowed this mode of warfare. Many instances of this might be cited, but a typical one will suffice. The unspeakable Tilly, of Belgian origin, a pious and devout Catholic, excused his soldiers in the hideous sack of Magdeburg, on the ground that they should have some compensation for the toil and the danger they had undergone. Within a few hours after the capture of this town, the Croats and Walloons in his army slaughtered thirty thousand of its non-combatant inhabitants, leaving only one thousand of the latter, alive and huddled for a couple of days in churches, whom Tilly finally "pardoned." In this sack the victorious army exhibited every form of bestial abandonment and savagery.

At the termination of the war the population was reduced from about twenty million to less than six million, and not a few of the cities were in utter ruins. The peasantry in many parts were exterminated and in other parts reduced to such a condition of famine, abject misery and wretchedness, that cannibalism was, it is claimed, common.

Before the material ruin had reached its climax, superstition, always following in the wake of disaster and misery, developed to an extraordinary degree and replaced the religion in whose name these frightful iniquities were committed. On all hands the indescribable suffering the population had experienced led men to attribute its origin to the machinations of the devil and his agents, and, in consequence, the burning of wizards and witches by thousands commenced and continued throughout the later years of the war. The Bishop of Würzburg, in 1627-8 alone, put to death 9,000, and the numbers who were burned at the stake for this cause were proportionately as large throughout other parts of the land every year.

With the destruction of wealth and the wholesale slaughter of the population went the liberty and civic freedom so characteristic of Germany in the sixteenth century. The estates, diets and free assemblies ceased to exist because the independent and intelligent classes, of which they were representative, were almost wholly exterminated. The electors, the petty princes and dukes, assumed, after the war, powers approaching those of a despot in their own territories, and they accordingly established themselves in a rigidly exclusive princely caste. They created a nobility from the most servile and obsequious of their subjects, and thus arose the Junkerthum of to-day, whose servility towards superiors and insolence to inferiors, so characteristic of the German nobility and officialdom, is thus easily explained. The remainder of the people under these petty though absolutist rulers were but little removed from the condition of serfdom for over a hundred and fifty years.

The country thus devastated and depopulated had scarcely time to recover from its greatest sufferings before it was invaded by the armies of Louis XIV, which overran the whole of the Palatinate, slaughtering its inhabitants and destroying everything in their course. The horrors of this campaign rivalled any of those of the campaigns under Tilly. Thousands of the inhabitants were driven into flight and exile, many of whom were cared for by the English Government and sent to Pennsylvania.

These campaigns, though confined to a portion of Germany, reacted on the whole people and impoverished it to a degree that made it more readily a victim in the extremities of the Seven Years' War (1756-63), the scene of which was Germany, and the ruin it involved supplemented that brought about in the Thirty Years' and Palatinate Wars.

As if the cup of misery for the German people had not already been filled to overflowing, it was, three decades later, again plunged into a war, this time with Republican France, and through the insane desire of the Emperor of Austria and the King of Prussia to restore the exiled Bourbon dynasty. In this conflict, which, with intermissions, lasted for twenty-three years, Germany was again and again subjected to invasion and conquest, and in the end to a loss, it is estimated, of five million lives and a destruction of wealth almost as great as in the Thirty Years' War. Although some consideration was shown for age and sex in the non-combatant population, the brutalities were almost as excessive as those committed in the earlier wars.

Has any other nation ever experienced such a hideous history as Germany, and could any other race fail under three hundred years of savage warfare to revert to a Neolithic state of mind, with its sanction for the barbarities that the German armies have committed in this war? It is to no purpose to urge that a nation, which has achieved so greatly in literature, philosophy, science and music, cannot be Neolithic in its outlook, for its leaders on the cultural side do not in this or any other respect represent the vast mass of the German people. What counts now is not its literature, its philosophy, its science, or its music, or all of these together, but what is back of the mind of the German people to-day. Is it possible to believe that the ghastly history of three centuries has left its ethnic content unaffected?

These wars with the exception of the one with Louis XIV, were more or less internecine or promoted by divisions and antagonisms amongst the Germans themselves or amongst the Austrians and Germans. The religious factor in the Thirty Years' War was wholly German and Austrian, for Pope Urban VIII refused to regard it as waged for the Catholic faith, because, as he maintained, wherever the sway of Gustavus Adolphus prevailed Catholics, as such, were protected in the exercise of their religion and their liberties. In these wars it was chiefly German against German, or Austrian and German against German, just as in 1866 in the Austrian War, when on the occupation of Frankfort by the Prussians, the latter acted towards the non-combatants of that city as ruthlessly as Tilly's savage mercenaries did towards the populations in the territories they overran.

Europe, the whole world, is paying in blood and tears for the German wars of the last three hundred years, which, with the other wars to which they were introductory, cost Europe over thirty-five million lives. The German mind, ethnically considered, has been enormously influenced by the memory of them and from this influence comes the justification that German writers advance to-day for the savagery that the German military authorities have countenanced and even encouraged in Belgium, France, Poland and Serbia.

Will the results of this war obliterate or accentuate the savage factor in the ethnic content of the German mind? Are racial hate and its product, brutality, always to dog the heels of civilization? Is this planet to be again and again the scene of such carnage? If so, would that some run-away star collide with it and abbreviate the tale of human wretchedness and sorrow.

"The world is weary of the past
Oh might it die or rest at last!"

Lives are in the making here,
Hearts are in the waking here,
Mighty undertaking here,
Up!—and on!

Ever onward to the fight,
Ever upward to the Light,
Ever true to God and Right,
Up!—and on! JOHN OXENHAM.

What the War Means to Canada

BY SIR EDMUND WALKER

NOW that we are entering the third year of the war and are assured that the Central Powers have passed the maximum of their fighting strength and that victory for us is only a question of time, we may, provided we do not for an instant relax our energies in carrying on the war, begin to consider what the war has meant and will mean to Canada. Before the war we could look back upon a series of romantic events connected with the discovery and first settlement of the various historical units which, just fifty years ago, we began to gather together to form the Dominion of Canada. This romantic past is a great possession and he must be a poor Canadian who has never been thrilled by it. By the creation of the Dominion we became the most important of the overseas portions of the British Empire, the precursor and the natural leader of those other Dominions of which the whole Empire is now so proud.

In the maps of the world in which the Empire is coloured red we are the largest part of the Empire. We possess the largest area of unploughed land in the temperate parts of the Western world. We are a democracy living under good law and order and where the dominant language of the world is spoken.

But we are among the most thinly populated parts of the world. We have struggled hard to harness our country for its undoubted future. In doing so we have built three transcontinental railways and we still have many communities bitterly resenting their lack of railway facilities. With such a small population we cohere too loosely as a people and with our

short history as a Dominion we still lack experience politically and socially as to the best means of developing and making the most of the vast trust which has been put in our hands. We have gathered feverishly the first fruits of our virgin condition, the individual thinking only of himself and not at all of his country and its future. We have not shown much intelligence in agriculture, in pastoral pursuits, in working our forests, in mining, or in any direct production from our natural resources, doubtless because the results of such intelligence as we have exerted have been a sufficiently handsome reward for our enterprise. We had begun to be a nation of manufacturers but mostly of a few articles largely needed at home, and until recently we were without good technical schools or much laboratory practice in direct connection with industries. We were making money too easily, developing material views on most public questions, cultivating few high national aspirations, and, indeed, swimming freely and comfortably in the current of an easy-going, pleasure-loving world. There were those who were sure of trouble ahead with Germany and who deplored the flabby state of mind which satisfied itself by calling the more thoughtful citizen a croaker. There were also those who felt that safety for the British Empire required that we should soon find a form of Imperial Government which would ensure to us a voice in the councils which debated the German peril or any other foreign peril that menaced the Empire.

But we were very young and inexperienced. The English thought us to be much like our American cousins. The Americans thought us to be like our British forbears. No

one seemed to recognize that we had sufficient idiosyncrasies of our own to make the name "Canadian" mean much. Could any foreigner, indeed, recognize the type physically? We thought we could readily do so, but I fear others could not. In our youth, however, lay vast possibilities; the germs of a high civilization were about us and some at least aimed at the stars. Because of our universities, and our largest technical school; of the work of many of our young painters; of our growing concern for the history of our country; of the character of the narrow rill of fine literature produced here; of the fairness of our audiences and the nature of our discussions in Canadian clubs, boards of trade, etc., and, finally, in our dreams for the future of Canada, we have felt sure of an enduring success, even when the evils attending our material prosperity and our apparent disregard of the future were at their worst.

Like a bolt of lightning in a blue sky we were put to the test. Were we really sons of the mother of whom we sang so loudly. Did we really mean that God should save the King? Had we kept this great outpost of the Empire for the Empire or for ourselves? Were we willing after our sad

talk about approving first of Britain's cause before aiding her—were we willing to fight? Were we fit to fight? Could we, lovers of peace, much bent on our own affairs, far from the madding crowd of Europe, be turned immediately into hardened men who would not flinch in the roar of battle? Let us be honest and admit that we were not as sure as we wished to be.

All those doubts are past. We did not hesitate, but sprang to the colours at once. By the end of the war we shall have raised about ten times as many soldiers as we promised at the beginning. We have made soldiers out of utterly inexperienced civilians in the shortest time on record. These men in khaki have been seen and photographed so often that the whole world knows what Canadians are like. They do not now say that we are like Americans or that we are like Englishmen, and every man in our ranks, no matter where he was born or of what stock he is descended, wishes to be known as a Canadian. I am sure we have not fought better than the Anzacs, or the English, Scotch or Irish, but we have fought as well. Our boys have quitted themselves like men and that is enough. We are baptized and admitted to the councils of the world. We have helped in the greatest emergency the world has ever known. We have even saved some of those days when the fate of empire was hanging in the air between morning and evening. For a generation when men and women gather together in Canada there will be men wearing medals on the clasps attached to which will be French and Belgian names indissolubly linked with the soldiers of Canada. In this atmosphere will grow up the children who were too young to take the man's part at the front or the woman's part at home, but who will be shaped mentally and physically by the great deeds of their fathers and mothers; and who shall estimate the effect on the generations yet to come?

When the war is over there will be at first a painful period of readjusting our affairs financially, industrially and socially.



Turning 4.5 High Explosive Shells in Canada

What effect will the burden of the war debt have upon our incomes and our power to produce cheaply? What suitable occupation can we find for our returning soldiers and for the soldiers and immigrants from other lands? How can we deal successfully with our immigration problems, racially and industrially? We want men on the land, not in the cities, and we must so plan that men can acquire the land and pay for it as easily as possible, so long as they are reasonably fit. We want men of other nations to understand that this is a British country and that if they come to Canada their children must speak English. Immigration under other conditions will rapidly become intolerable. What will happen to the many women who have filled the places of men during the war? How can we put to ordinary uses the skill in organization, engineering, invention, workmanship, division and co-ordination of labour learned in making munitions of war? How can we preserve the new relations between the state, the employer and labour, and thus begin to build a better social structure than the world has ever known? How can we preserve the present conviction that production is a duty to the state as well as to the individual, that personal expenditure has a relation to the state as well as to the individual, and that extravagance may be a national crime even if we are able to pay for it? How can we preserve that attitude of mind which now gives money freely for anything connected with the conduct of the war, so that war taxes for a generation to come will be the cheerful offering of a people thankful for liberty

preserved and for the blessings of a peace which was otherwise impossible?

It is easy to ask questions especially as I do not intend to try to answer them. What I wish to impress on all University men is that upon the good or bad solutions of these and other cognate problems will depend the future of Canada and that from the men of our Universities more than from any other source will be provided the leadership under which good or bad solutions will be found. If this is true, every suggestion that is made regarding the duty of Canada after the war—and the air is filled with them—should be studied most carefully and promptly so that we may not be unprepared when our boys come home.

Our responsibilities are enormous. We have been put in charge of one-third of the British Empire in area. We have in racial origin, land, climate, laws, society, industrial energy and moral quality such an opportunity as has seldom come to any people. We are the greatest hope of the home-seeker in the world. If we will turn the energy we have shown in the war to the building of that Canada which our elements are intended to produce, we shall show the world a nation such as history has not yet recorded. This is not boasting—this is said in deep humility. I am sure that all the cards are in our hands and I hope we may learn how to play them and thus win the greatest game since the foundations of society were laid.



Women operating Cartridge Case Presses in Canada



Canadian Landscapes

The Proof of Canada

VIEWED from one angle the Canadian people resemble a crowd fiercely scrambling for coins; viewed from another they seem capable of the highest ideals and loyalties. The dualism may be universal—we are all swayed alternately by selfish and unselfish motives—still it has been unusually marked in Canada because of the circumstances of the country. The great majority of those who came to Canada did so with the object of improving their fortunes and they knew that for success they must depend upon their own efforts. Hence the society which they created became at once highly individualistic and pre-occupied with material things. Where the individual was perforce bent upon bettering his position, he would measure his progress in terms of material wealth, and since his efforts and those of his fellows seemed also to bring prosperity to the community, he concluded that by pursuing his own ends freely and vigorously the individual promoted in the best way possible the welfare of society as a whole. The proofs were before his eyes in the recent development, as it was called, of Canada. "Work and the community works with you," was the slogan of the boomster. Thus a self-seeking individualism became as general as it had been in the United States a few years ago, and in Great Britain throughout the middle period of the last century. Indeed, many of the immigrants from Great Britain had brought with them the very atmosphere in which the individualist theories of *laissez-faire* and *laissez-aller* had flourished. The theories, like the practice on this continent, simply expressed the conviction of those who have everywhere been successful during an epoch of great material progress, and who infer from their own experience that if others were left like themselves to form the same intelligent and profitable judgment of their own interests, everyone would be prosperous and happy. The world becomes a mirror of their satisfaction and contentment. From their own confidence in themselves they easily reach a confidence in human nature. They see, especially in a new country, energies released and powers discovered in individuals to whom the more rigid society of an older world has not offered similar opportunities; and those who were thus visibly re-born are not merely of their own race. Many peoples have been thrown together here whom history would have kept apart elsewhere. They read in one another's success the proof that, if untrammelled, men generally could make progress—at least of the material sort which a new community has judged good. Thus individualism begets an optimism and a kind of idealism. Men are better than older countries seem to believe. Give them a chance. Throw off their shackles, political and economic, and they will become noble and prosperous citizens in a new world.

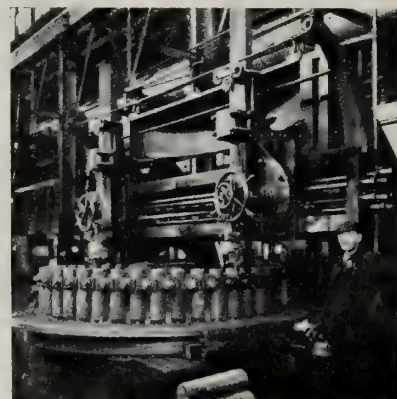
This optimism and idealism found a natural outlet in the pacifism which had been so much advocated in Canada within recent years. A mankind so easily regenerated will at once dispense with war. The cheerful individualist who accepted this conclusion ignored the fierce competition in which he was himself en-

gaged. He gave little thought to national and racial sympathies, because to a thorough-going individualist these must always seem illogical. And once he was told that war would not pay the matter was ended. Since men pursued material gain, and war destroyed the gain, war must cease. The pacifist movement may have had in it a more genuine impulse than this thoughtless optimism and superficial idealism could provide, but certainly in so far as it depended upon such motives it was the greatest of illusions.

In general, individualism has not been favourable to the development of the more patient, foreseeing, and courageous types of political thought and action. Not merely does it turn to self-seeking too much of the country's energy and ability, but it leaves little room for a real sense of communal life and responsibility. The community is more than the sum of the individual members. All their relationships, their reactions one upon the other, must be considered from the point of view of the community as a whole. By comparison the individualist point of view must at best be partial and narrow. The political thought which comprehends the interests of the whole community will have to impose safeguards and restrictions or offer opportunities after a fashion for which mere individualism would not allow. Thought of such a type depends in turn upon an imaginative power and upon qualities of altruism, self-abnegation, devotion to the public good, and these are not easily fostered by an individualist practice. Hence politics are with us too frequently reduced to the provision of public works and the bare machinery for our common life. The larger issues are forcibly kept in the background as long as possible, and when they do push themselves forward they are left to settle themselves. Events will decide, becomes the prescription of the individualist. Eager in his own affairs to take every precaution, to devise every measure beforehand, he resigns himself in public matters to the policy of drift. Thus

the curious phenomenon has been presented everywhere on this continent of a people full of energy and enthusiasm yielding where the largest issues are concerned to a kind of dull fatalism. The explanation lies in the necessary limitations of individualist practice.

The habit of waiting upon events contributed in Canada to our neglect of defence, but its most interesting consequence has been the over-emphasis upon the



Squaring Shell-forging Bases



Making Canadian snipers at the front

value of Canadian nationality. Canadian patriotism has been a natural and proper growth. The people came to love their country. In spite of their individualism they developed a sense of kinship. They discovered a national



Turning Copper Driving Band

anthem. They began to form something like a distinctive national type. The name Canada alone was enough to make a nation. So much of the process everyone would have rejoiced in. There was no reason, however, to conclude that Canada must, therefore, become a nation wedded to selfish nationalism like other nations. She was still part of a greater political unity. If she carried the principle of nationality to its logical end this

unity must be destroyed as an effective agent for good. Perhaps the highest mission of Canada was to sustain this unity. Possibly her duty was not to turn in upon herself, but to bear the burdens of the whole Empire. Nationality itself might have been only an experiment in political organization, useful in the nineteenth century, but subject to modification and limitation in the twentieth. These were considerations which Canadians could not fairly neglect. Yet in some quarters they found no favour, being inconsistent with the fatalist creed. Indeed, even to urge them became a kind of heterodoxy. The creed itself was largely a repetition of the magic word autonomy. If any difficulty arose in regard to our foreign relations, or to defence, the repetition of the word would at once remove it. Thus many Canadians were chanting themselves into a political future which they steadily refused to envisage.

The war broke all these spells. It corrected much of the harm arising from a fatalistic individualism, and revived the ideals and loyalties which had always been an element in the Canadian character, but which the selfish pursuit of individual gain had obscured. A situation was presented in which the individual could do nothing merely by his own efforts apart from or in opposition to those of his fellows. Common action was required, and common action of a kind very different from the haphazard, careless, irresponsible sort hitherto undertaken in the name of the public. The community had now to ask everything from its members, and to discipline and organize them if it was to be saved. Thus the individual Canadian came to realize as never before the nature of a true community, and of his own part in it. In a few cases the truth may have come home to him slowly. The indifference to the claims of the public which arises from a self-centred individualism cannot be dispelled in a moment. Still the great majority of the Canadian people quickly recognized their obligations and were ready to discharge them. That such should have been the case was remarkable, when the limitations of their previous political training are taken

into account, and the fact can be explained only by the native idealism for which an individualistic society had not provided an adequate expression. The better qualities fostered by a competitive individualism, the energy, initiative and self-reliance of the Canadian certainly found an outlet in the new field, but these could not of themselves have created the intense and universal desire to serve, and the willingness to make sacrifices for the common cause. The competitive instinct yielded to the demand for co-operation. The superficial idealism, which soothed the conscience of the individualist by decrying his sternest duty, vanished before the truer and finer sort which sees that human progress must be slowly and painfully wrought at the cost of sacrifice. The Canadian learned that by discharging all his duty to the state he might best perform his duty to the world.

It would be too much to say that the good will of the community has yet resulted in the most effective public action. Time and money are still being wasted in a multitude of individual undertakings which should give way to the organized effort of the community. The habit of organizing effectively for the best public objects had not been formed and cannot be acquired quickly. In the nature of things such organization must depend largely upon the political leaders, but these were themselves the product of the very individualism which had to be superseded. It was inevitable but none the less unfortunate that they should have hesitated in some cases to accept the new responsibility of controlling and directing a whole society. Hence from one point of view we may not seem to have accomplished much; our military contribution does not equal that of a community like Australia, better organized in some respects than ourselves. Still the general recognition and cheerful acceptance of the claims of the community amounts to a revolution in Canadian life.

The community which has asserted its claims upon these willing subjects is wider than Canada. It may be true that the Canadian nation was born on the battlefield of St. Julien. It would certainly be a mistake to under-estimate the pride and enthusiasm with which the people have followed the record of their own men. On the morning of Monday, April 26th, when the casualty lists appeared, the general sorrow was more than neutralized by pride in the heroism of the dead. Yet the nationality which the war has thus unfolded is less exclusive than it might otherwise have become. There is reason indeed for believing that just as the individual Canadian by discovering his place in the true community discovered himself, his real powers and loyalties, so the Canadian nation by coming to understand more clearly its part in a larger unity has discovered itself. The heavier its responsibilities as a member of the British Empire, the more high-willed, and disinterested, and the less divided it must

become. The same result could scarcely have been reached if its attention had been turned inwards to its own concerns. In any case it will clearly be content hereafter, like Scotland, with making a distinctive national contribution to a broader commonwealth. Canadian autonomy, which was too often synonymous with a freedom to think only of box cars and canals, or to abstain from the Empire's wars, or to depend upon Great Britain



Shooting match between Canadians, Australians, New Zealanders, South Africans and Mother Country corps

for defence, has thus assumed a deeper significance. It includes not merely our local liberties, but the right to die side by side with the other members of the British Empire for the Empire's cause. Our position in the Empire has never, of course, been lost sight of by Canadians. Amidst all the changes and uncertainties of life in a new country it has constituted probably the oldest and the strongest of our loyalties. Racial sympathies and a common history were the basis of our association with British communities elsewhere, but only the basis. The structure, as it was foreseen by many and actually foreshadowed in the existing Empire, was to include a variety of races, to preserve and develop them, to keep the peace between them, to ward off dangers from without, and to present to the world an example of a diversified society in which order and liberty were recon-

ciled. The vision of such a commonwealth Canadians never lost, however dimly they may at times have beheld it. Without it they might have perished. They might, for example, have accepted the tradition of this continent that they should keep aloof from the politics of Europe, and thus have thrown upon other shoulders some of the heavier burdens of mankind. As it is, following the vision, they have taken up their load. Hence they suffer and die for the commonwealth on the plains of north-western Europe. They are seeking to preserve and perpetuate a society wider than Canada, but within which Canada can fulfil all her hopes and render her highest service. It is impossible that they shall have died in vain, or that those who come after them will let the commonwealth fail for which they have given so much.

By courtesy of the "Round Table" and Macmillan & Co.

War Work of the Antitoxin Laboratory

Department of Hygiene, University of Toronto

By J. G. FITZGERALD

Director

ON May 1, 1914, the Antitoxin Laboratory in the Department of Hygiene was opened. This new department in the University was started with the idea of preparing and distributing public health biological products, such as diphtheria antitoxin, Pasteur anti-rabic treatments, meningitis serum, etc. Provincial and municipal health departments were supplied at prices materially lower than ever before. The work was commenced with a dual purpose. First to supply these products at the lowest possible price and second to provide funds and facilities for research in Preventive Medicine and Hygiene. The nature of the undertaking was analogous to that of the Serum Department of the Pasteur Institute in Paris and the Lister Institute in London.

Less than four months after the Laboratory was opened, war was declared. Almost at once it was evident that the work of the Antitoxin Laboratory would be increased both in scope and importance as a result of the outbreak of hostilities.

Immediately enormous quantities of anti-typhoid vaccine, diphtheria antitoxin, anti-meningitis serum and tetanus antitoxin were required. There was soon a very serious shortage of all but the first named product which is the only one of these easily and quickly prepared. During the fall and winter of 1914-15 there was neither time nor opportunity for the Laboratory to do more than supply diphtheria antitoxin. However, in March 1915, active steps were taken to secure funds necessary to equip a laboratory for the purpose of preparing tetanus antitoxin. This being still expensive and difficult to obtain.

The Dominion Government in April 1915, made a grant of five thousand dollars to equip the Laboratory to undertake the preparation of Tetanus antitoxin. By October of the same year, horses which had been under treatment since April were producing this serum, and they have continued to produce ever since that time.

The Department of Militia and Defence and the Canadian Red Cross Society have been supplied with approximately twenty-eight thousand immunizing doses of tetanus antitoxin since the inception of the work. This has been used in France and in other theatres of war and has given every satisfaction. It is to be especially noted that the Antitoxin Laboratory supplied this product at a price far below that quoted by various commercial manufacturers, practically at

cost. Not only were lives saved but a very considerable sum of money.

During the first six months of the War, tetanus was very common, 4 to 5% of all deaths in certain areas being due to this disease. Now less than 0.1% of deaths are due to tetanus. Great credit is due to Dr. Robert D. Defries under whose immediate supervision this splendid work was carried on. The thanks of the University are also due to Dr. D. King Smith for very generously placing the Old Ontario Veterinary College premises at the disposition of the Antitoxin Laboratory. This served for many months as a stable for the tetanus antitoxin horses.

Anti-meningitis serum next received attention. Early in the war epidemic cerebro-spinal meningitis was second on the list of causes of death in the British Expeditionary Force in England. During the winter of 1915, sixteen cases of the disease occurred amongst enlisted men in Toronto and there were eight deaths. The serum used was not entirely satisfactory. The Antitoxin Laboratory then began the preparation and distribution of this serum. In the first six cases treated with the serum prepared in the Antitoxin Laboratory there was not a single death. Between December 1915 and September 1916 there were eleven cases of the disease in M.D. No. 2 and with serum treatment there was not a single death. In M.D. No. 3 in the same time there were fourteen cases and only one death.

The Laboratory has also supplied smallpox vaccine at a price just two thirds of that paid to commercial firms at the outbreak of war. The future of this work of the Antitoxin Laboratory has recently been put upon a firm foundation by a magnificent gift from Colonel A. E. Gooderham, of a farm of fifty acres, on which have been erected absolutely model and completely equipped stables and laboratories for carrying on the work of producing these biological products.

Thanks to the efforts of Major J. W. S. McCullough, Chief Officer of Health of Ontario and Sanitary Officer for M.D. No. 2, the Provincial Board of Health now supplies free of charge in Ontario, diphtheria antitoxin, tetanus antitoxin, Pasteur anti-rabic treatments, smallpox vaccine, anti-meningitis serum and typhoid vaccine. So that when the war is over and wounded men or their families require any of these products they will be supplied free of charge instead of having to pay the almost prohibitive prices charged, before the establishment of the Antitoxin Laboratory.

Earl Kitchener—An Appreciation

By THE VEN. W. J. ARMITAGE, Halifax, N.S.

THE mind of the Empire was well voiced when Canning gave it expression in his brilliant aphorism after the death of Edmund Burke: "There is but one event, but it is the event of the world—Burke is dead." Kitchener is dead. So the sad news flashed to all earth's continents. But not in soldier fashion on the blood-drenched soil, but beneath the dark waves of the storm-tossed ocean. The gallant ship went down with its rich and precious freightage of human lives. But there was one of untold value. Weighed in the balances of worldly judgment, it would outweigh an army. Who could express its worth save our Shakespeare:—

"This body did contain a spirit.

A kingdom for it was too small a bound."

Old ocean ne'er gave sepulchre to so great a son of earth. The Royal Navy, mistress of the seven seas, to which under God we all owe an incalculable debt, forbears to grieve for her own losses, and joins with the army, with the citizens of the Empire, and with lovers of freedom everywhere in placing its hallowed tribute on the ocean grave of a Briton whose name will be honoured while the world lasts or time endures.

"O friends; our chief state-oracle is mute,

Mourn for the man of long enduring blood,

The statesman-warrior, moderate, resolute,

Whole in himself, a common good.

Mourn for the man of amplest influence,

Yet clearest of ambitious crime.

Our greatest yet with least pretence,

Great in council and great in war,

Foremost captain of his time."

Kitchener by the inherent nobility of his character, had seized the imagination of the world. There was a glamour of romance about him, which made an irresistible appeal. Milton in glowing terms had described the man whom he most resembled in English history, his own heroic Cromwell as "our chief of men." And Kitchener was the man of all men in whom the British people had garnered up their hopes, and in whose keeping they had placed their hearts with supremest confidence.

The world saw in Kitchener a giant of efficiency, rising like a mountain peak above all others by sheer force of intellect and strength of will. It saw clearly that he towered above his fellows in his knowledge of affairs, and in the practical force which he employed in the realization of his aims.

He was the ablest soldier of the age, highest in patriotic spirit, in military genius, in organizing ability, in executive capacity, and in statesmanlike foresight. He possessed, and trained to the utmost point, faculties and qualities seldom found in combination, the gift of administration, a philosophic insight amounting almost to prescience, wedded to indomitable resolution.

The imagination of the ancients pictured the war-god as the blustery and wordy Mars, but Kitchener was the very embodiment of reserve. He never wore his heart upon

his sleeve, but he was none the less, a true British soldier, strong, and silent, and calm, and forceful and compelling. And in this, too, he followed closely in the footsteps of the first great organizer of the English army—Cromwell of the iron will.

Perhaps the best word-picture ever drawn of Kitchener was that of the celebrated war correspondent, Mr. G. W. Steeven in "With Kitchener to Khartoum." He gives his age, which he remarks is irrelevant. He describes his appearance: "He stands several inches over six feet, straight as a lance, and looks out imperiously above most men's heads; his motions are deliberate and strong; slender but firmly knit, he seems built for tireless, steel-wire endurance, rather than for power and agility; that also is irrelevant." He further describes his face, his eyes, his cheeks, his mouth, his brow. He declares all this is irrelevant too, "neither age, nor figure,

nor face, nor any accident of person has any bearing on the essential Sirdar. He has no age but the prime of life, no body but one to carry his mind, no face but one to keep his brain behind. The brain and the will are the essence and the whole of the man—a brain and a will so perfect in their workings that, in the face of extremest difficulty, they never seem to know what struggle is."

Kitchener was the brain of the army. He was altogether unique. He stood by himself, in the originality of his character, and the versatility of his talents. His quick and penetrating mind seized every side of a subject. His eye like the Roentgen Rays of modern science saw through men and things. Like Napoleon he had a devouring appetite for detail. Nothing was too great for him, and nothing was too small for his attention. He planned on the largest scale. He possessed the invaluable faculty of decision, and his judgments reached after due deliberation were almost infallible.

He was the arm of the Empire. All men everywhere felt that there was a strong and masterful hand guiding the destinies of our land forces. He stood like a very Colossus amidst all the mere talkers of the land, and you could almost read Tennyson's words upon his lips: "Say thou thy say, and I will do the DEED."

Kitchener had an immense capacity for hard work. He was a man of boundless and tireless energy. The story of his entry into the War Office in August, 1914, is good enough to be true. When he was asked, if there was anything he required, he is reported to have answered, "only an iron bed," suggesting that he intended to sleep as well as to work there. Charles the Twelfth of Sweden, whom he resembled in his iron nerve, had five horses shot under him at the Battle of Narva. As he mounted the sixth he said: "These people give me exercise." So with Kitchener, difficulties and dangers only roused him to greater activity, and gave him room for the exercise of his powers. He had learned with the patriot, Kossuth: "There are no obstacles to him who wills."

He planned his campaigns with a grasp of detail, which left nothing to chance, and with such a comprehension of view



EARL KITCHENER

that no contingency seemed to be overlooked. He believed with Stonewall Jackson that the way of success lay in secrecy of design combined with rapidity of execution.

In nothing, perhaps, was his genius more remarkable than in his choice of instruments. He appeared always to know where to find the right man for the right place. In short, as Lord Rosebery said of Napoleon, ordinary tests do not apply to him. We seem to be trying to span a mountain with a tape. For Kitchener had that undefinable quality which we call genius, combined with surpassing powers of intellect, united to untold forces of human energy.

Plutarch thought that the history of the world is the history of its great men. How large a page, then, has Kitchener written in the record of our time. Cousin, with philosophic insight, noted the distinction between the mere man and the great man in the individual. The philosophy of history does, he thought, just what humanity does, it judges men by their ideals, by what they have done, or what they wished to do, and decides to forfeit their weaknesses. But here is one, whose very name is a synonym for strength seemingly without alloy, a unique personality marked by immense stores of vitality of mind and body.

Kitchener left the impress of his character upon three continents. First upon Africa, in three great territories—in South Africa, in the Soudan and in Egypt. Next upon Asia, in that vast empire of India. And lastly, upon Europe, which his master spirit saved from panic, possibly from destruction. He no sooner conquered the Soudan, than he planned for the people the best possible system of education. He found a nation of slaves, he lifted them to the plane of freedom. Achmed Abdullah, a kinsman of the Ameer of Afghanistan, tells us that the Mohammedans feel his loss with a shock of sharp, personal grief. He embodied in himself

the spirit of fair play, of straight, strict justice, of impersonal ambition, of physical vigour and moral cleanliness, of broad humanity and broadest tolerance, which enabled the English to do what no other nation has ever done—not even Rome—in the government of diverse creeds, races and civilizations.

And to-day they tell us he is dead. There is a sense in which he is not dead. His spirit lives, his influence remains. It has permeated the vast millions of our Empire. It has found most complete expression in the splendid army of upwards of five million men, the greatest body of volunteers the world has seen—free men fighting for the freedom of our humanity.

The lesson of the hour is not far to seek. First, have faith in God. Behind and above all, the unseen, the directing hand of the Omniscient and Omnipotent God is carrying His purposes out. God, it has been said, buries His workmen, but carries on His work. Again and again, in our England's history, He has raised up the man just suited to face the need of the hour—an Alfred, a Cromwell, a Wellington, a Kitchener.

Second, be faithful to principle. We are fighting for the cause of justice and truth between man and man; for the sacred principles of freedom and liberty in the world. And we may well say with Lincoln: "With firmness in the right as God gives us to see the right, let us strive on to finish the work." And whatever the issue, and however far we stand from the accomplishment of Kitchener's great aims, this much we may say of the man and of his work:—

"Thou hast succeeded, thou hast won,
The deathly travail's amplest worth;
A nation's duty thou hast done;
Giving a hero to this earth."

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The Red Badge of Mercy

BY MARY ROBERTS RINEHART

IMMEDIATELY on the declaration of war by the Powers the vast machinery of mercy was put in the field. The mobilization of the Red Cross army began—that great army which is of no nation but of all nations, of no creed but of all faiths, of one flag for all the world and that flag the banner of the Crusaders.

The Red Cross is the wounded soldier's last defense. Worn as a brassard on the left arm of its volunteers, it conveys a higher message than the Victoria Cross of England, the Iron Cross of Germany, or the Cross of the Legion of Honour of France. It is greater than cannon, greater than hate, greater than blood-lust, greater than vengeance. It triumphs over wrath as good triumphs over evil. Direct descendant of the cross of the Christian faith, it carries on to every battlefield the words of the Man of Peace: "Blessed are the merciful, for they shall obtain mercy."

The care of the wounded in war has been the problem of the ages. Richard the Lion-Hearted took a hospital ship to the coast of Palestine. The German people of the Middle Ages had their wounded in battle treated by their wives, who followed the army for that purpose. It remained for Frederick the First of Prussia to establish a military service in connection with a standing army.

With the invention of firearms battlefield surgery faced new problems, notably hemorrhage, and took a step forward to meet these altered conditions. It was a French surgeon who solved the problem of hemorrhage by tying the torn blood vessels above the injury. To England goes the credit for the prevention of sepsis, as far as it may be prevented on a battlefield.

As far as it may be prevented on a battlefield! For that is the question that confronts the machinery of mercy to-day. Transportation to the hospitals has been solved, to a large extent, by motor ambulances, by hospital trains, by converted channel steamers connecting the Continent with England. Hospitals in the western field of war are now plentiful and some are well equipped. The days of bedding wounded men down on straw are largely in the past, but how to prevent the ravages of dirt, the so-called "dirt diseases" of gaseous gangrene, blood poisoning, tetanus, is the problem.

I did not see the first exchange of hopelessly wounded prisoners that took place at Flushing, while I was on the Continent. It must have been a tragic sight. They lined up in two parties at the railroad station, German surgeons and nurses with British prisoners, British surgeons and nurses with German prisoners.

Then they were counted off, I am told. Ten Germans came forward, ten British, in wheeled chairs, on crutches, the sightless ones led. The exchange was made. Then ten more, and so on. What a sight! What a horror! No man there would ever be whole again. There were men without legs, without arms, blind men, men twisted by fearful body wounds. Two hundred and sixteen British officers and men, and as many Germans, were exchanged that day.

"They were, however, in the best of spirits," said the "London Times" of the next day!

At Folkestone a crowd was waiting on the quay, and one may be sure that heads were uncovered as the men limped, or were led or wheeled, down the gangplank. Kindly English women gave them noseays of snowdrops and violets.

And then they went on—to what? For a few weeks, or months, they will be the objects of much kindly sympathy. In the little towns they live in visitors will be taken to see them. The neighbourhood will exert itself in kindness. But after a time interest will die away, and besides, there will be many to divide sympathy. The blind man, or the man without a leg or an arm, will cease to be the neighbourhood's responsibility and will become its burden.

What then? For that is the problem that is facing each nation at war—how to make a whole life out of a fragment, to teach that the spirit may be greater than the body, to turn to usefulness these sad and hopeless by-products of battlefields.

The ravages of war—to the lay mind—consist mainly of wounds. As a matter of fact, they divide themselves into several classes, all different, all requiring different care, handling and treatment, and all, in their several ways dependent for help on the machinery of mercy. In addition to injuries on the battlefield there are illnesses contracted on the field, septic conditions following even slight abrasions or minor wounds, and nervous conditions—sometimes approximating a temporary insanity—due to prolonged strain, to incessant firing close at hand, to depression following continual lack of success, to the sordid and hideous presence of unburied dead, rotting in full view for weeks and even months.

During the last winter frozen feet, sometimes requiring amputation, and even in mild cases entailing great suffering, took thousands of men out of the trenches. The trouble resulted from standing for hours and even days in various depths of cold water, and was sometimes given the name "water bite." Soldiers were instructed to rub their boots inside and out with whale oil, and to grease their feet and legs. Unluckily, only fortunately situated men could be so supplied, and the suffering was terrible. Surgeons who have observed many cases of both frost and water bite, say that, curiously enough, the left foot is more frequently and seriously affected than the right. The reason given is that right-handed men automatically use the right foot more than the left, make more movements with it. The order to remove



Litter bearers in the Forests of Argonne

boots twice a day, for a few moments while in the trenches, had a beneficial effect among certain battalions.

The British soldier who wraps tightly a khaki puttee round his leg and thus hampers circulation has been a particular sufferer in spite of the precaution he takes to grease his feet and legs before going into the trenches.

The presence of septic conditions has been appalling.

This is a dirty war. Men are taken back to the hospitals in incredible states of filth. Their stiffened clothing must frequently be cut off to reveal, beneath, vermin-covered bodies. When the problem of transportation is a serious one, as after a great battle, men must lie in sheds or railway stations, waiting their turn. Wounds turn green and hideous. Their first-aid dressing, originally surgically clean, becomes infected. Lucky the man who has had a small vial of iodine to pour over the gaping surface of his wound. For the time, at least, he is well off.

The very soil of Flanders seems polluted. British surgeons are sighing for the clean dust of the Boer war of South Africa, although they cursed it at the time. That it is not the army occupation which is causing the grave infections of Flanders and France is shown by the fact that the trouble dates from the beginning of the war. It is not that living in a trench undermines the vitality of the men and lays them open to infection. On the contrary, with the exception of frost bite, there is a curious absence of such troubles as would ordinarily result from exposure, cold and constant wetting.

The open-air life has apparently built up the men. Again and again the extraordinary power of resistance shown has astonished the surgeons. It is as if, in forcing men to face overwhelming hardships, a watchful Providence had granted them overwhelming vitality.

Perhaps the infection of the soil, the typhoid-carrying waters that seep through and into the trenches, the tetanus and gangrene that may infect the simplest wounds, are due to the long intensive cultivation of that fertile country, to the fertilization by organic matter of its fields. Doubtless the vermin that cover many of the troops form the connecting link between the soil and the infected men. In many places gasoline is being delivered to the troopers to kill these pests, and it is a German army joke that before a charge on a Russian trench it is necessary to send ahead men to scatter insect powder! So serious is the problem in the east indeed that an official order from Berlin now requires all cars returning from Russia to be placarded "*Aus Russland!*" Before using again thoroughly sterilize and unlouse!" And no upholstered cars are allowed to be used.

Generally speaking, a soldier is injured either in his

trench or in front of it in the waste land between the confronting armies. In the latter case, if the lines are close together the situation is still further complicated. It may be and often is impossible to reach him at all. He must lie there for hours or even for days of suffering, until merciful death overtakes him. When he can be rescued he is, and many of the bravest deeds of this war have been acts of such salvage. In addition to the work of the ambulance corps and of volunteer soldiers who often venture out into a rain of death to bring in fallen officers and comrades in the western field, some five hundred ambulance dogs are being used by the Allies to locate the wounded.

When a man is injured in the trenches his companions take care of him until night—then it is possible to move him. His first-aid packet is opened, a sterilized bandage produced, and the dressing applied to the wound. Frequently he has a small bottle of iodine and the wound is first painted with that. In cases where iodine is used at once, chances of infection are greatly lessened. But he must lie in the trench until night, when the ambulances come up. His comrades make him as comfortable as they can. He lies on their overcoats, his head frequently on his own pack.

Fighting goes on about him, above him. Other comrades fall in the trench and are carried and laid near him. In the intervals of fighting, men bring the injured men water. For that is the first cry—a great and insistent need—water. When they cannot get water from the canteens they drink what is in the bottom of the trench.

At last night falls. The evening artillery duel during the winter months was greatly lessened during the night, and infantry fire was only that of "snipers." But over the trench and over the line of communication behind the trench hang always the enemy's "starlights."

The ambulances come up. They cannot come as far as the trenches, but stretchers are brought and the wounded men are lifted out as tenderly as possible.

Many soldiers have tried to tell of the horrors of a night journey in an ambulance or transport; careful driving is out of the question. Near the front the ambulance can have no lights, and the roads everywhere have been torn up by shells.

Men die in transit, and dying hark back to early days. They call for their mothers, for their wives. They dictate messages that no one can take down. Unloaded at railway stations, the dead are separated from the living and piled in tiers on trucks. The wounded lie about on stretchers on the station floor. Sometimes they are operated on there, by the light of a candle, it may be, or of a smoking lamp. When it is a well-equipped station there is the mercy of chloroform, the blessed release of morphia, but more times than I care to think of at night, there has been no chloroform and no morphia.

France has sixty hospital trains, England twelve, Belgium not so many.

I have seen trains drawing in with their burden of wounded men. They travel slowly, come to a gradual stop, without jolting or jarring; but instead of the rush of passengers to alight, which usually follows the arrival of a train, there is silence, infinite quiet. Then, somewhere, a door is unhurriedly opened. Maybe a priest alights and looks about him. Perhaps it is a nurse who steps down and takes a comprehensive survey of conditions. There is no talking, no uproar. A few men may come up to assist in lifting out the stretchers, an ambulance driver who salutes and indicates with a gesture where his car is stationed. There are no onlookers. This is business, the grim business of war. The line of stretchers on the station platform grows. The men lie on them, impassive. They have waited so long. They have lain on the battlefield, in the trench, behind the line at the dressing shed, waiting, always waiting. What is a little time more or less now?



The problem facing each nation is to make a whole life out of a fragment

The patience of the injured! I have been in many hospitals. I have seen pneumonia and typhoid patients lying in the fearful apathy of disease. They are very sad to see, very tragic, but their patience is the lethargy of half-consciousness. Their fixed eyes see visions. The patience of the wounded is the resignation of alert faculties.

Once I saw a boy dying. He was a dark-haired, brown-eyed lad of eighteen. He had had a leg shattered the day before, and he had lain for hours unattended on the battlefield. The leg had been amputated, and he was dying of loss of blood.

He lay alone, in a small room of what had once been a girls' school. He had asked to be propped up with pillows, so that he could breathe. His face was gray, and only his eyes were alive. They burned like coals. He was alone. The hospital was crowded, and there were others who could be saved. So he lay there, propped high, alone, and as conscious as I am now, and waited. The nurse came back at last, and his eyes greeted her.

There seemed to be nothing that I could do. Before his conscious eyes I was an intruder, gazing at him in his extremity. I went away. And now and then, when I hear this talk of national honour, and am carried away with a hot flame of resentment so that I, too, would cry for war, I seem to see that dying boy's eyes, looking through the mists that are vengeance and hatred and affronted pride, to war as it is—the end of hope, the gate of despair and agony and death.

I have just received these letters. The woman who wrote them will, I know, forgive me for publishing these extracts from them. She is a Belgian, married to an American. More clearly than any words of mine, they show where falls the burden of war:

"I have just learned that my youngest brother has been killed in action in Flanders.

King Albert decorated him for conspicuous bravery on April 22nd, and my poor boy went to his reward on April 26th. In my leaden heart, through my whirling brain, your words keep repeating themselves: 'For King and Country!' Yes, he died for them, and died a hero! I know only that his regiment, the Grenadiers, was decimated. My poor little boy! God pity us all, and save martyred Belgium!"

In a second letter:

"I inclose my dear little boy's obituary notice. He died at the head of his company and five hundred and seventy-four of his Grenadiers went down with him. Their regiment effectively checked the German advance, and in recognition General Joffre pinned the Cross of the Legion of Honour to his regimental colours. But we are left to mourn—though I do not begrudge my share of sorrow. The pain is awful, and I pray that by the grace of God you may never know what it means."

For King and Country!

The only leaven in this black picture of war as I have seen it, as it has touched me, has been the scarlet of the Red Cross. To a faith that the terrible scenes at the front had almost destroyed, came every now and then again the flash of the emblem of mercy. Hope, then, was not dead. There were hands to soothe and labour, as well as hands to

kill. There was still brotherly love in the world. There was courage that was not of hate. There was a patience that was not a lying in wait. There was a flag that was not of one nation, but of all the world; a flag that needed no recruiting station, for the ranks it led were always full to overflowing; a flag that stood between the wounded soldier and death; that knew no defeat but surrender to the will of the God of Battles.

And that flag I followed. To the front, to the field hospitals behind the trenches, to railway stations, to hospital trains and ships, to great base hospitals. I watched its ambulances on shelled roads. I followed its brassards as their wearers, walking gently, carried stretchers with their groaning burdens. And, whatever may have failed in this war—treaties, ammunition, elaborate strategies, even some of the humanities—the Red Cross as a symbol of service has never failed.

I was a critical observer. I am the graduate of a hospital training-school, and more or less for years I have been in touch with hospitals. I myself was enrolled under the Red Cross banner. I was prepared for efficiency. What I was not prepared for was the absolute self-sacrifice, the indifference to cost in effort, in very life itself, of a great army of men and women. I

saw English aristocrats scrubbing floors; I found American surgeons working day and night under the very roar and rattle of guns. I found cultured women of every nation performing the most menial tasks. I found an army where all are equal—priests, surgeons, scholars, chauffeurs, poets, women of the stage, young girls who until now have been shielded from the very name of death—all enrolled under the red badge of mercy.

One of the first hospitals I saw was in Calais. We entered a muddy courtyard through a gate, and the building loomed before us. It had been



The sorrow of blindness is the portion of many

a girl's convent school, and was now a military hospital for both the French and British armies, one half the building being used by each. It was the first war hospital I had seen, and I was taken through the building by Major S—, of the Royal Army Medical Corps. It was morning, and the corridors and stairs still bore the mud of the night, when the ambulances drive into the courtyard and the stretchers are carried up the stairs. It had been rather a quiet night, said Major S—. The operations were already over, and now the work of cleaning up was going on.

He opened a door, and we entered a long ward.

I live in a great manufacturing city. Day by day its mills take their toll in crushed bodies. The sight of broken humanity is not new to me. In a general way, it is the price we pay for prosperity. Individually, men so injured are the losers in life's great struggle for food and shelter.

I had never before seen men dying of an ideal.

There is a terrible sameness in war hospitals. There are rows of beds, and in them rows of unshaven, white-faced men. Some of them turn and look at visitors. Others lie very still, with their eyes fixed on the ceiling, or eternity, or God knows what. Now and then one is sleeping.

"He has slept since he came in," the nurse will say; "utter exhaustion."

Often they die. If there is a screen, the death takes place decently and in order, away from the eyes of the ward. But when there is no screen, it makes little difference. What is one death to men who have seen so many?

Once men thought in terms of a day's work, a night's sleep, of labour and play and love. But all over Europe to-day, in hospital and out, men are learning to think in terms of life and death. What will be the result? A general brutalizing? The loss of much that is fine? Perhaps. There are some who think that it will scourge men's souls clean of pettiness, teach them proportion, give them a larger outlook. But is it petty to labour and love? Is the duty of the nation greater than the duty of the home? Is the nation greater than the individual? Is the whole greater than the sum of its parts?

Ward after ward. Rows of quiet men. The occasional thump of a convalescent's crutch. The swish of a nurse's starched dress. The strangled grunt of a man as the dressing is removed from his wound. The hiss of coal in the fireplace at the end of the ward. Perhaps a priest beside a bed, or a nun. Over all, the heavy odour of drugs and disinfectants. Brisk nurses go about, cheery surgeons, but there is no real cheer. The ward is waiting.

I saw a man who had been shot in the lungs. His lungs were filled with jagged pieces of steel. He was inhaling oxygen from a tank. There was an inhaler strapped over his mouth and nostrils, and the oxygen passed through a bottle of water, to moisten it before it entered his tortured lungs.

The water in the bottle seethed and bubbled, and the man lay and waited.

He was waiting for the next breath. Above the mask his eyes were fixed, intent. Would it come? Ah, that was not so bad. Almost a full breath that time. But he must have another, and another.

They are all waiting; for death, maybe; for home; for health again, or such travesty of health as may come, for the hospital is not an end but a means. It is an interval. It is the connecting link between the trenches and home, between war and peace, between life and death.

That one hospital had been a school. The children's lavatory is now the operating room. There are rows of basins along one side, set a trifle low for childish hands. When I saw them they were faintly rimmed with red. There was a locker room too. Once those lockers had held caps, no doubt, and overshoes, balls and other treasures. Now they contained torn and stained uniforms, weapons, knapsacks.

Does it matter how many wards there were, or how many surgeons? Do figures mean anything to us any more? When we read the other day that the British Army, a small army compared with the others, had lost already in dead, wounded and missing more than a quarter of a million men we could not visualize it. Multiply one ward by infinity, one hospital by thousands, and then try to realize the terrible by-products of war!

In that Calais hospital I saw for the first time the apparatus for removing bits of shell and shrapnel directly under the X-ray. Four years ago such a procedure would have been considered nothing short of suicidal to the operator.

At that time, in Vienna and Berlin, I saw men with hands hopelessly burned and distorted as the result of merely taking photographic plates with the X-ray. Then came in lead screens—screens of glass made with a lead percentage.

Now, as if science had prepared for this great emergency, operators use gloves saturated with a lead solution, and right-angled instruments, and operate directly in the ray. For cases where immediate extraction is inadvisable or unnecessary there is a stereoscopic arrangement of plates on the principle of our familiar stereoscope, which shows an image with perspective and locates the foreign body exactly.

One plate I saw had a story attached to it.

I was stopping in a private house where a tall Belgian surgeon lived. In the morning, after breakfast, I saw him carefully preparing a tray and carrying it upstairs. There was a sick boy, still in his teens, up there. As I passed the door I had seen him lying there, gaunt and pale, but plainly convalescent.

Happening to go up shortly after, I saw the tall surgeon by the side of the bed, the tray on his knees. And later I heard the story:

The boy was his son. During the winter he had been injured and taken prisoner. The father, in Calais, got word that his boy was badly injured and lying in a German hospital in Belgium. He was an only son.

I do not know how the frenzied father got into Belgium. Perhaps he crept through the German lines. He may have gone to sea and landed on the sand dunes near Zeebrugge. It does not matter how, for he found his boy. He went to the German authorities and got permission to move him to a private house. The boy was badly hurt. He had a bullet in the carotid artery, for one thing, and a fractured thigh. The father saw that his recovery, if it occurred at all, would be a matter of skillful surgery and unremitting care, but the father had a post at Calais and was badly needed.

He took a wagon to the hospital and got his boy. Then he drove, disguised I believe as a farmer, over the frontier into Holland. The boy was covered in the bottom of the wagon. In Holland they got a boat and went to Calais. All this, with that sharp-pointed German bullet in the carotid artery! And at Calais they took the plate I have mentioned and got out the bullet.

The last time I saw that brave father he was sitting beside his son, and the boy's hand was between both of his.

Nearly all the hospitals I saw had been schools. In one that I recall, the gentle-faced nuns, who by edict no longer exist in France, were still living in a wing of the school building. They have abandoned their quaint and beautiful habit for the ugly dress of the French provinces—odd little bonnets that sit grotesquely on the tops of their thin heads, stuffy black dresses, black cotton gloves. They try to be useful, but these that I saw were old and belonged to the old régime.

Under their bonnets their faces are placid, but their eyes are sad. Their schoolrooms are hospital wards, the tiny chapel is piled high with supplies; in the refectory, where decorous rows of small girls were wont to file in to the convent meals, unthinkable horrors of operations go on



The Only Leaven in the Black Picture of War is the Scarlet of the Red Cross

all day and far into the night. The Hall of the Holy Rosary is a convalescent room, where soldiers smoke and play at cards. The Room of the Holy Angels contains a sterilizer. Through the corridors that once re-echoed to the soft padding of their felt shoes brisk English nurses pass with a rustle of skirts.

Even the cross by which they lived has turned red, the colour of blood.

I saw a typhoid hospital in charge of two women doctors. It was undermanned. There were not enough nurses, not enough orderlies.

One of the women physicians had served through the Balkan war.

"There was typhoid there," she said, "but nothing to compare with this in malignancy. Nearly all the cases have come from one part of Belgium."

Some of the men were wounded, in addition to the fever. She told me that it was impossible to keep things in proper order with the help they had.

"And food!" she said. "We cannot have eggs. They are prohibitive at twenty-five centimes—five cents—each; nor many broths. Meat is dear and scarce, and there are no chickens. We give them stewed macaroni and farinaceous things. It's a terrible problem."

The charts bore out what she had said about the type of the disease. They showed incredible temperatures, with the sudden drop that is perforation or hemorrhage.

The odour was heavy. Men lay there, far from home, babbling in delirium or, with fixed eyes, picking at the bed clothes. One was going to die that day. Others would last hardly longer.

"They are all Belgians here," she said. "The British and French troops have been inoculated against typhoid."

So here again the Belgians were playing a losing game. Perhaps they are being inoculated now. I do not know. To inoculate an army means much money, and where is the Belgian Government to get it? It seems the tragic irony of fate that that heroic little army should have been stationed in the infested territory. Are there any blows left to rain on Belgium?

In a letter from the Belgian lines that I have just received the writer says:

"This is just a race for life. The point is, which will get there first, disease and sickness caused by drinking water unspeakably contaminated, or sterilizing plants to avoid such a disaster."

Another letter from a different writer, also in Belgium at the front, says:

"A friend of mine has just been invalided home with enteritis. He had been drinking from a well with a dead Frenchman in it!"

The Belgian Soldiers' Fund has sent out an appeal, which says:

"The full heat of summer will soon be upon the army, and the dust of the battlefield will cause the men to suffer from an intolerable thirst."

This is a part of the appeal:

"It is said that out of the 27,000 men who gave their lives in the South African war 7000 only were killed, whilst 20,000 died of enteritis, contracted by drinking impure water.

"In order to save their army from the fatal effects of contaminated water, the Belgian Army medical authorities have, after careful tests, selected the following means of sterilization—boiling, ozone and violet rays—as the most reliable methods for obtaining large supplies of pure water rapidly.

"Funds are urgently needed to help the work of providing and distributing a pure water supply in the following ways:

"1. By small portable sterilizing plants for every company to produce and distribute from twenty to a hundred gallons of pure cold water per hour.

"2. By sterilizers easy of adjustment for all field hospitals, convalescent homes, medical depots, and so forth.

"3. By large sterilizing plants, capable of producing from 150 gallons upward per hour, to provide a pure water supply for all the devastated towns through which the army must pass.

"4. By the sterilization of contaminated pools and all surface water, under the direction of leading scientific experts who have generously offered their services.

"5. By pocket filters for all who may have to work out of reach of the sterilizing plants, and so forth.

"6. By two hundred field kitchens on the battlefield to serve out soup, coffee or other drinks to the men fighting in the trenches or on the march."

Everywhere, at the front, I found the gravest apprehension as to water supply in case the confronting armies remained in approximately the same position. Sir John French spoke of it, and the British are providing a system of sterilized water for their men. Merely providing so many human beings with water is a tremendous problem. Along part of the line, quite aside from typhoid contamination, the water is now impregnated with salt water from the sea. If even wells con-

tain dead bodies, how about the open watercourses? Wounded men must have water. It is their first and most insistent cry.

Several millions of people will read this—people who have never known the thirst of the battlefield or the parched throat that follows loss of blood; people who, by the turning of a tap, may have all the water they want. Perhaps in all that number there are some who will face this problem of water as America has faced Belgium's problem of food. For the Belgian Army has no money at all for sterilizers, or pocket filters; has not the means to inoculate the army against typhoid; has little of anything. The revenues that would normally support the army are being collected—in addition to a war indemnity—by Germany.

Any hope that conditions would be improved by a general spring movement into uncontaminated territory has been dispelled. The war has become a gigantic siege, varied only by sorties and assaults. As long ago as last November the situation as to drinking water was intolerable. I quote from the diary taken from the body of a dead German officer after the battle of the Yser—a diary that I published in full in an earlier article:

"The water is bad, quite green, indeed; but all the same we drink it—we can get nothing else. Man is brought down to the level of the brute beast."

Probably by this time the efficient German engineers have piped a supply of pure water to the German Army. Doubtless they realized earlier than the Allies the strength of their position, the siege nature of the war, and prepared for it.

There is little or no typhoid among the British troops. They, too, no doubt, have realized the value of conservation, and to inoculation have added careful supervision of wells and of watercourses. But when I was at the front the Belgian Army of fifty thousand trained soldiers and two hundred thousand recruits was dependent on springs oozing



"Morning Glory"

from fields that were vast graveyards; on sluggish canals in which lay the bodies of men and horses; and on a few tank wagons that carried fresh water daily to the front.

A quarter of a million dollars would be needed to install a water supply for the Belgian Army and for the civilians—residents and refugees—gathered behind the lines. To ask the American people to shoulder this additional burden is out of the question. But perhaps, somewhere among the people who will read this, there is one great-hearted and wealthy American who would sleep better of nights for having lifted to the lips of a wounded soldier the cup of pure water that he craves; for having furnished to ten thousand wounds a sterile and soothing wet compress.

Dunkirk was full of hospitals when I was there. Probably the recent shelling of the town has destroyed some of them. I do not know. A letter from Calais, dated May 21st, says:

"I went through Dunkirk again. Last time I was there it was a flourishing and busy market day. This time the only two living souls I saw were the soldiers who let us in at one gate and out at the other. In the interval, as you know, the town had been shelled by fifteen-inch guns from a distance of twenty-three miles. Many buildings in the main streets had been reduced to ruins, and nearly all the windows in the town had been smashed."

There is, or was, a converted Channel steamer at Dunkirk that is now a hospital. Men in all stages of mutilation are there. The salt winds of the Channel blow in through the open ports. The boat rises and falls to the swell of the sea. The deck cabins are occupied by wounded officers, and below, in the long saloon, are rows of cots.

I went there on a bright day in February. There was a young officer on the deck. He had lost a leg at the hip, and he was standing supported by a crutch and looking out to sea. He did not even turn his head when we approached.

General M——, the head of the Belgian Army medical service, who had escorted me, touched him on the arm, and he looked round without interest.

"For conspicuous bravery!" said the General, and showed me the medal he wore on his breast.

However, the young officer's face did not lighten, and very soon he turned again to the sea. The time will come, of course, when the tragedy of his mutilation will be less fresh and poignant, when the Order of Leopold on his breast will help to compensate for many things; but that sunny morning, on the deck of the hospital ship, it held small comfort for him.

We went below. At our appearance at the top of the stairs those who were convalescent below rose and stood at attention. They stood in a line at the foot of their beds,

boys and grizzled veterans, clad in motley garments, supported by crutches, by sticks, by a hand on the supporting back of a chair. Men without a country, where were they to go when the hospital ship had finished with them? Those who were able would go back to the army, of course. But what of that large percentage who will never be whole again? The machinery of mercy can go so far, and no further. France cannot support them. Occupied with her own burden, she has persistently discouraged Belgian refugees. They will go to England probably—a kindly land but of an alien tongue. And there again they will wait.

The waiting of the hospital will become the waiting of the refugee. The Channel coast towns of England are full of human derelicts who stand or sit for hours, looking wistfully back toward what was once home.

The story of the hospitals is not always gloomy. Where the surroundings are favourable, defeat is sometimes turned to victory. Tetanus is being fought and conquered by means of a serum. The open treatment of fractures—that is, by cutting down and exposing the jagged edges of splintered bones, and then uniting them—has saved many a limb. Conservation is the watchword of the new surgery, to save whenever possible. The ruthless cutting and hacking of previous wars is a thing of the past.

I remember a boy in a French hospital whose leg bones had been fairly shattered. Eight pieces, the surgeon said there had been. Two straight incisions, connected by a centre one, like a letter H, had been made. The boy showed me the leg himself, and a mighty proud and happy youngster he was. There was no vestige of deformity, no shortening. The incisions had healed by first intention, and the thin, white lines of the H were all that told the story.

As if to offset the cheer of that recovery, a man in the next bed was dying of an abdominal injury. I saw the wound. May the mother who bore him, the wife he loved, never dream of that wound!

I have told of the use of railway stations as temporary resting places for injured soldiers. One is typical of them all. As my visit was made during a lull in the fighting, conditions were more than usually favourable. There was no congestion.

On a bright afternoon late in February, I went to the railway station three miles behind the trenches at E——. Only a mile away a town was being shelled. One could look across the fields at the changing roof line, at a church steeple that had so far escaped. But no shells were falling in E——.

The station was a small village one. In the room corresponding to our baggage-room straw had been spread over the floor, and men just out of the trenches lay there in every

attitude of exhaustion. In a tiny room just beyond two or three women were making soup. As fast as one kettle was ready it was served to the hungry men. There were several kettles—all the small stove would hold. Soup was there in every state, from the finished product to the raw meat and vegetables on a table.

Beyond was a waiting-room, with benches. Here were slightly injured men, bandaged but able to walk about. A few slept on the benches, heads lolled back against the whitewashed wall. The others were paying no attention to the incessant, nearby firing, but were watching a boy who was drawing.

He had a supply of coloured crayons, and the walls as high as he could reach were almost covered. There were priests, soldier types, caricatures of the German Emperor, the arms of France and Belgium—I do not remember what all. And it was exceedingly well done. The boy was an artist to his finger tips.

At a clever caricature of the German Emperor the soldiers laughed and clapped their hands. While they were laughing I looked through an open door.

Three men lay on cots in an inner room—rather, two men and a boy. I went in.



A French "75" retrieved from the Fire of the Enemy

One of the men was shot through the spine and paralyzed. The second one had a bullet in his neck, and his face already bore the dark flush and anxious look of general infection. The boy smiled.

They had been there since the day before, waiting for a locomotive to come and move the hospital train that waited outside. In that railway station the boy had had his leg taken off at the knee.

War is a thing of fearful and curious anomalies. It has shown that humane units may comprise a brutal whole; that civilization is a shirt over a coat of mail. It has shown that hatred and love are kindred emotions, boon companions, friends. It has shown that in every man there are two men, devil and saint; that there are two courages, that of the mind, which is bravest, that of the heart, which is greatest.

It has shown that government by men only is not an appeal to reason, but an appeal to arms; that on women, without a voice to protest, must fall the burden. It is easier to die than to send a son to death.

It has shown that a single hatred may infect a world, but it has shown that mercy too may spread among nations. That love is greater than cannon, greater than hate, greater than vengeance; that it triumphs over wrath, as good triumphs over evil.

Direct descendant of the cross of the Christian faith, the Red Cross carries on to every battlefield the words of the Man of Mercy:

"Blessed are the merciful, for they shall obtain mercy."

On a day in March I went back to England. March in England is spring. Masses of snowdrops lined the paths in Hyde Park. The grass was green, the roads hard and dry under the eager feet of Kitchener's great army. They marched gayly by. The drums beat. The passers-by stopped. Here and there an open carriage or an automobile drew up, and pale men, some of them still in bandages, sat and watched. In their eyes was the same flaming eagerness, the same impatience to get back, to be loosed against the old lion's foes.

All through England, all through France, all through that tragic corner of Belgium that remains to her, are similar armies drilling and waiting, equally young, equally eager, equally resolute. And the thing that they were going to I knew. I had seen it in that mysterious region that had swallowed up those who had gone before; in the trenches, in the operating rooms of field hospitals, at outposts where the sentries walked hand in hand with death.

War is not two great armies meeting in the clash and frenzy of battle. War is a boy carried on a stretcher, looking up at God's blue sky with bewildered eyes that are soon to close; war is a woman carrying a child that has been injured by a shell; war is spirited horses tied in burning buildings and waiting for death; war is the flower of a race, battered, hungry, bleeding, up to its knees in filthy water; war is an old woman burning a candle before the Mater Dolorosa for the son she has given.

For King and Country!

Printed by courtesy of the "Saturday Evening Post"

University of Toronto (67th) Battery, C.F.A.

BY SIDNEY CHILDS, B.A.

DURING the academic year 1915-1916 it became apparent that the University of Toronto was being greatly depleted by the continuous recruiting of students to many overseas units. There have been few units raised in Ontario and the West in which Varsity men are not

found, but no definite University combatant unit bearing the University name at that time existed. The Students' Administrative Council believed that there was a distinct sentiment among the students in favour of the formation of such a unit if it was authorized by the authorities. Accordingly the Council organized a campaign in the colleges and faculties to find out the feeling of the students concerning the formation of a suggested Training

Battalion for overseas service. This was found impossible owing to the immense drain upon the students during eighteen months of war and it was realized that not enough remained to form such a battalion. It was considered a better plan to ask for the authorization of a Training Company for those students and graduates who wished to

qualify for active service commissions in the infantry, and an artillery battery for those members of the University who preferred this arm of the service. The 67th Battery was authorized towards the end of the Easter term and recruited rapidly, beginning training at the University under Major

F. C. Harrison, O.C., and Lieuts. W. J. I. Wright, J. Newton and W. G. Bowles. During the summer the battery was moved into camp and rapidly became efficient enough to send two drafts of men overseas and expects to send a third draft shortly.

A number of the members held commissions in infantry militia regiments and joined the battery in order to get to the front as soon as possible. The "Magazine Supplement" shows that al-

though the University has not a large combatant unit of its own, owing to the decision of the Militia authorities that it would do better to organize and maintain the Officers' Training Corps, Varsity men are spread far and wide throughout the services doing honour to their Alma Mater.



University of Toronto (67th) Battery, C.F.A.



A Message from British Columbia

TO THE EDITOR.

Dear Sir—

Your letter of July 8th ult., asking me to contribute to a magazine supplement of "Varsity" in aid of Canadian hospital work at the front, was received at my office during a somewhat protracted visit to the interior of the Province, which will account for its not having earlier attention.

I note that a second object is the raising of \$4000 to equip your two university units, the University Battery, C.F.A., and Training Company, of O.T.C. As you anticipate, both of these objects have my warmest sympathy and I sincerely trust that you will be entirely successful, as you deserve to be. To me, as an old University man, it is a matter of great satisfaction that the Universities of Canada have responded so nobly to the call to arms in the Empire's cause and have sent and are sending so many men to the front. The only regret, which we all share, is that the flower of our Canadian youth find it in duty necessary to go, many of them never to return or to return maimed and nerve-shocked.

Living in British Columbia and having the honour of being its premier, I cannot help feeling a little extra enthusiastic on the subject. War is very much in the air here, and I believe this Province has the honour of leading per head among the provinces in the enlistment, in contribution to the Canadian Patriotic Fund, the Canadian Red Cross Fund and perhaps in other ways. The fact that we have a greater percentage of British born or of direct British descent may account for it. In such a cause I think it is a justifiable pride and if the statement of the fact should prove a stimulus in other provinces to enlistment I shall perhaps be forgiven for making it. We have contributed 35,000 men to the colours, approximately \$1,000,000 to the Canadian Patriotic Fund, and very large amounts to Canadian Red Cross and other funds and objects. Canadians everywhere have done nobly.

Yours faithfully,

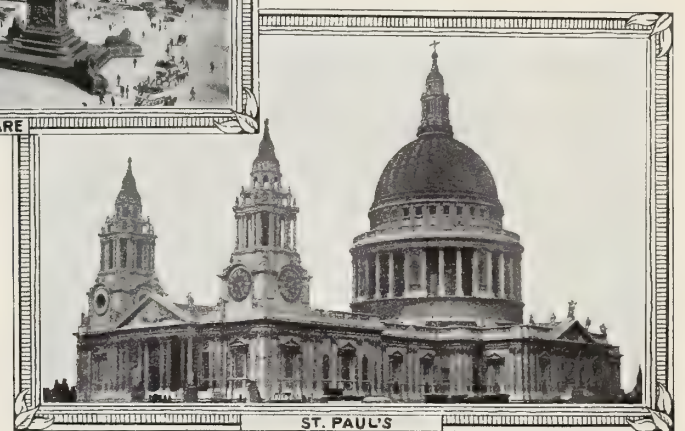
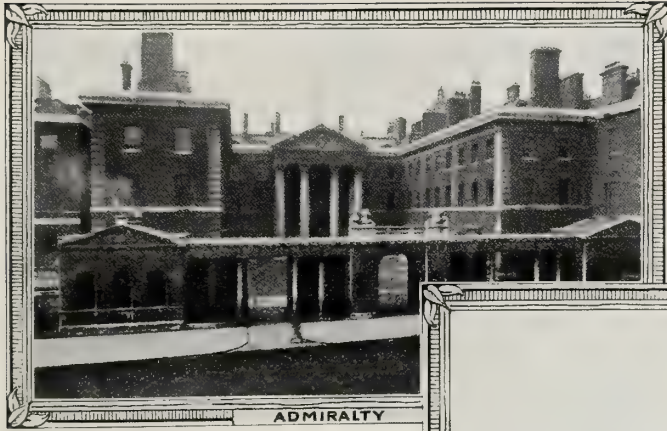
W. J. BOWSER,
Premier.

"Carry the word to my Sisters—

To the Queens of the East and the South,
I have proven my faith in the Heritage
By more than the word of the mouth.

They that are wise may follow
Ere the world's war-trumpet blows;
But I—I am first in the battle,
Said our Lady of the Snows."

KIPLING.



The Kaiser's Guilt is Supreme

BY THE RIGHT HONOURABLE WINSTON CHURCHILL

TO dwell for many years under the suspense of a great decision, some irrevocable step to be taken or refused, some choice the consequence of which must affect one's whole life for good or ill, is by no means an uncommon experience. The mind returns to a crucial point again and again. The ordinary affairs take their course all around the day's work done; its interests, pleasures, vexations flow on. But there in the background lies the dominating thought gathering force and intensity, conscious or sub-consciously loosening one by one its restraining bonds until it is ready to leap across the gulf from thought to action. Still it remains inert. Something has yet to happen. Have you ever seen a great ship launched? The labours of thousands of men for many months are finished. One by one all blocks and shores have been struck away. The ways are greased. The paths cleared. Still the mighty mass lies on the slips motionless, seemingly immovable. A delicate hand takes a chisel and cuts a single strand of cord, and from that instant the deed is done. Nothing can recall it. All the science of the world, all the strength of man cannot arrest the almost imperceptible movement that has begun. Suppose a mistake had been made, some terrible miscalculation, it is too late. Whether to reach the blue water or crash in destroying ruin depends on the way the ship is launched.

People have lived for years and years on the verge of suicide or murder or madness and die sane, innocent, and honoured. The terrible "it" has remained undone. The crouching tiger, though, has never made its spring—nay more, has withered with age and new conditions. Competing interests have arisen in the mind; new fields of consciousness are lighted up. There is a different world. All was ready;

weapons lay to hand. Reason had talked itself to a standstill. Nothing stood in the way. Yet nothing happened.

Or, to the contrary, the self-accusing figure flings open the door, mouthing the familiar words: "You all drove me to it."

"In God's name," we cry, "what have you done?"

In assigning supreme guilt to William II. it is not necessary to impute a conscious or deliberate intention, nourished over many years, to bring about at a given time circumstances which led to the general war. Forces were at work, gaining slowly in influence, far more profound than could issue from the will of a single ruler. But, at any rate, he took, as the occasions came along, every step intended to create a deadly situation—rarely one step that would prevent it. He embodied and encouraged the system of military thought and organization which made Prussia so terrible to her neighbours.

His was the hand that plied the goad in the race of armaments. His was the voice that pronounced the fateful blunder of Germany's diplomacy, and in that climax his was the gesture, whether of malice or hysteria, that cast the nations into the general war. He knew that the French Republic and pacific Russia were unready, and none knew better how earnestly and loyally Britain would have striven at his side—as she had done during the Balkan war—to ward off and tide over by any means the decided event.

There never was a state as ill-content with prosperity as Germany before the war. Her strength gigantic, her energies carried her forward along every path of material progress at a pace without an equal in history. Wealth, power, knowledge flowed in upon the German people on every side. They dwelt in honour and security. The fears

of their enemies and the envy or admiration of the rest of the world alike proclaimed their glory, and at the pinnacle in a sunblaze of fame sat the favourite of fortune, into whose lap all earthly advantages had been poured, unsatisfied and fretful, still hungry—the true representative of the people he ruled, the custodian of the hideous evils about to be released.

The union of Germanic people, their rise to a supreme position in Europe, was viewed with general good-will. With all its dark features, in spite of its plotted wars and harsh subjugations, Bismarck's lifework had received assent and, on the whole, the approval of Europe. In England and Russia particularly, where the Napoleonic scars were plainly visible to the national consciousness, the accession of the masculine genius of Germany to a first place was viewed with undoubted satisfaction. France beaten and isolated, Austria reconciled, Russia a friend, Britain independent and a supporter, Italy an ally—these were the conditions which Bismarck had in the main established. Germany isolated, Austria ruined, France, Italy, Russia and England sworn in a solemn league of war, even distant Japan made a foe—these are the results which the policy of his successor has achieved.

There was a cabinet meeting on a Friday afternoon in 1914 which was occupied almost entirely with the Irish crisis. For two hours the discussion played actively and anxiously around the vital question as to what parts of the counties of Monaghan and Tyrone could be provisionally excluded from the ambit of the Home Rule bill. Never was partisanship outside more fierce, never were the outstanding points of difference more petty, never was the deadlock more complete. Then, before we hurried to the House for the expected series of divisions, the quiet voice of the Foreign Secretary was heard reading the terms of the Austrian ultimatum to Serbia.

The intention of these rasping sentences was unmistakable; but would Serbia submit to terms more humiliating than any ever imposed upon an independent state? On Saturday Serbia submitted. On Sunday it appeared that even this was not acceptable to his Austrian majesty. During that day a wave of fear and excitement swept across Europe. That night first measures of British naval precaution were taken and declared.

Still unless war had been irrevocably willed by Germany, which we couldn't then know, there seemed many bulwarks between Europe and disaster. Reason recoiled with indignation from the chain of consequences threatened, in the name of the Balkan quarrel, to hurl into mortal conflict against each other the mightiest states of history, and to condemn the leading races of mankind to miseries and butcheries beyond all measures.

To those who had believed in Germany, which for more than forty years had waged no war, it was inconceivable that there should be no remedy, no break in this monstrous concatenation and that one thing should lead to another in a senseless way till all were dragged into the abyss. Others who had been forced to watch more closely the military and naval aspects were oppressed by a sense of deliberate German purpose, of cold decisions taken months, even years, before, of preparations long maturing, of a terrible design. But, still, the Agadir crisis had passed away, safely surmounted.

And then on top of all this momentous uncertainty came the special problems of Great Britain. We were free from all legal or formal engagements. One hundred and sixty thousand British soldiers was the most that, even if we sided with her, France ever asked for or expected. All our military and naval discussions with the French staffs had proceeded on the avowed and accepted basis that the British nation must be free to choose its own course when the moment came. Still, the French counted on us. They believed that not for a war of revenge, but in resistance to naked aggression they could count on us. They had made their military, even more, their naval dispositions, in that hope—not, thank God, unfounded. Our course during the hours which followed—

for every hour must have counted—every hour will be brought under the scrutiny of posterity—was simply not to encourage France and Russia into an ambitious course by any assurance that we should take their side, not to let Germany suppose that we were afraid or unable to fight her, and to try somewhere, somehow, to get both sides to parley around a table. To this must be added the Admiralty policy—"ready." And had there not been a deliberate, overriding intention to make war on the part of Germany, to which intention Emperor William had consciously and resolutely given his support, Sir Edward Grey would unquestionably have succeeded. But against the ram of stubborn purpose nothing could avail.

It has often been asked whether Britain could have prevented war at this stage by an immediate declaration that she stood by France and Russia. It was not possible in the state of public or Parliamentary or Cabinet opinion which then existed to make such declaration without tearing the nation in half. But had it been possible, would it have succeeded? The answer, according to all we know to-day, is certainly that it would not. We cannot now tell at what precise moment the Emperor's decision to make war was taken. Whether it was weeks, or months, or years before the event is not yet provable.

Perhaps it was after Agadir, perhaps it was when the Balkan States defeated Turkey, perhaps it was when the \$50,000,000 capital tax in Germany was decreed. Perhaps it was not taken until the murder of the Archduke at Sarajevo. The preparations, however elaborate, however prolonged, however extensive, were not necessarily malignant. The rather dubious maxim, "*Si vis pacem*," etc., can always be invoked. But at some point in this system of world-wide, life-long preparation came the decision to pull the trigger. We can be sure, or almost sure, the point had already been passed in the last week of July, 1914, and that the will that decreed the terms of the Serbian ultimatum had already resolved to launch the armies. A strange week to live. A week of passionate argument and grave action. A week lived in a world of small compass but of immense importance. A week lived on one side of the Horse Guards Parade among only a few well known faces, in tumultuous anxiety, and on the other in a vast, smooth organization, working with exact precision, and beyond only the vague impressions of wondering, enquiring eyes, and ever-growing turmoil or discordant counsels, heard, or half-heard, as an unnoticed accompaniment.

Each hour despatches flowed in and the uncertainty as to war grew stronger, the struggle of honest opinion in the Cabinet became more intense, and one after another Sir Edward Grey plied his efforts for peace, and one after another the levers that bring the navy into full preparedness were pulled hard over until at last, diplomacy exhausted, the Cabinet was stunned into agreement by the Belgian crime and the fleet ready. The door of the council room opened, and those whose views had in the end prevailed or been carried by the march of events came out into the open air. War was resolved on. How to explain it to the country, to Parliament, to the Empire? How to convince the millions who in this free land are the final arbiters? How to convince the distant Dominions and the great dependencies? Not that we doubted the result. The instinct of the British Empire is unerring. But the facts and arguments were so numerous and complex, the issue so fearful, so immediate that the task seemed formidable in the extreme. But it was all unneeded.

The same process of conversion and conviction that had convulsed the Cabinet for a week had been simultaneously accomplished in each individual, true beating heart. Already in every quarter of the globe the British race and all who share their fortunes and inheritance had sprung to arms. Then began what with all disappointments and disillusion, with all mismanagement and shortcomings, long drab periods of toil and suffering, stabbing flashes of intolerable pain, shall yet prove to be the most glorious as it is the most dear-bought page in the story of our race and island.

The Norway of the New World

NO sportsman need be told of the attractions of Newfoundland. Every year they come to the island in increasing numbers—from Canada, "The States," and, before the war, from England—to hunt caribou or shoot partridge or fish for trout and salmon in the well-stocked streams. But the ordinary summer tourists have shown themselves rather indifferent to this seabound land of quaint fisherfolk, whose climate is phenomenally healthful and whose scenery is different from that of any other portion of the New World. It is the vacation aspect of the island that the writer is attempting to set forth here—some of the sights and pleasures to be enjoyed by the casual visitor with the true traveller's spirit. Newfoundland is almost as large as New York State, with a rugged, broken coast-line running out into long, fingerlike capes, and backing into the land to form fiords several hundred miles deep. In fact, it is all capes and big bays and tiny havens. The ragged coast-line is strikingly like that of Norway, and the resemblance is strengthened by the great codfish industry, the chief means of livelihood on the island. Little fishing villages are scattered everywhere, and wherever there is a pocket in the land, gay-painted dories are drawn up, and tiny smacks with tanned sails swing at anchor.

In the larger outports schooners from "the Banks" make the scene a busy one, with men splitting fish and salting them down, and the women spreading them on layers of sweet-smelling spruce boughs or on the wind and sun-swept pebbles of the beaches. Steamers thread their ways into all these little harbours and outports with provisions, receiving and delivering His Majesty's mail at the same time. These

steamers have excellent accommodations for the tourist who wishes to avail himself of the opportunity to study the life of the hardy fisherfolk whose villages dot the shore. The constantly changing scenery amply repays the trip, and during the short stops made at each little town one may go ashore in the mail boat and absorb local colour.

Placentia, on the south coast, is one of the largest of these ports. It stands on a pebbly bar that stretches across the mouth of two long arms of the sea, one seven miles, the other nine, in length. This is a fine salmon region. The sea almost surrounds the town and a cut in the bar divides it into two sections. Those wishing to go from one side to the other, step into a motor boat and are ferried across at the expense of the town. Its peculiar situation, with the sea in front and behind and the water rushing madly through the cut, the white houses and red roofs, the dark, spruce-clad hills that spring up from the shingle, give to Placentia all the air of a foreign seaport.

With this town as headquarters one may go west to Lamaline by steamer, touching at a score or more of harbours on the way, peaceful havens tucked in among forbidding cliffs and rocky headlands. The names of these towns are unique; think of happening on tiny villages called "Come-by-Chance," "Heart's Content," "Step Aside," "Pushthrough," and "Path End"!

Returning to Placentia after this trip of several days, one may start out the next morning by the same steamer and visit all the outports of the Bay, going up one shore and returning on the other. From Friday to Sunday can be spent threading the narrow passages between hundreds of



A Sail-Mender of St. Johns



Loading a Schooner with Codfish

islands (it is said that there are about four hundred of them), or going up deep runs to reach some far-away little fishing village under the shadow of precipitous cliffs split and torn by all the winters of ice since the world began.



Drying Cod along the Water Front of St. Johns

Exchanging the boat for a train at Port aux Basques, one enters the famous salmon and trout regions of the Codroy Mountain rivers. East of this section is the home and sporting ground of the caribou. In the vicinity of "The Topsails"—mountains that spring up without warning from the plain, like gnarls on a stick—there are beaten paths worn by the countless herds of caribou that for centuries have followed the same trail in their great spring pilgrimages to fresh pastures in the north and west.

It is three hundred miles by train from Port aux Basques to St. John's on the eastern coast. Of course, the journey may be broken at a hundred different small towns along the railroad, where there is always something to interest. Everywhere one sees the picturesque sunbonnets of the women who are harvesting the hay and bringing it home in gay patchwork quilts knotted at the corners, or in an obsolete fish net neatly balanced on their backs; for a horse to do the work is absolutely unnecessary when the women are so strong and the crop so scant. There are odd little patches of turnips and potatoes surrounded by weather-beaten fences. Here in the tiny, irregular gardens one sees women struggling with weeds, hilling potatoes, or burying codfish heads among the turnips. The season is so short and cold that the wonder is that anything will grow, but the annual crop of vegetables is a very respectable one. Goats roam about at large and live happily on scant pasturage from barren cliff-sides that would not support one cow. To keep the goats from invading the precious gardens, a sort of three-cornered wooden fence is built around each animal's neck. The fence gives the goat an odd appearance, but successfully prevents him from reaching the turnips, for, try as he will, he cannot get even the tiniest nip at a delectable leaf. His yoke brings up hard against the rod fence hedging in the coveted vegetables, and the pressure would choke him if he persisted. The kids are gagged with a tiny stick inserted in the mouth like a bit, each end tied with a string to the horns. This arrangement allows the kids to nibble grass, but prevents them from nursing their mother. Sticks are placed under hens' wings so that they cannot get into the gardens. You are impressed oddly when, on meeting a group of hens in the main highway of some village, you see them coming along with extended wings, as if they had just arisen from a dust battle and were about to shake themselves. Some of the well-to-do people keep a

cow or two. These likewise roam through the little outports, nibbling tiny bits of grass that creep out of the crannies in the granite, and quench their thirst at wayside springs.

Drinking water is scarce and frequently has to be brought from a great distance. In order to keep from spilling the precious water they have walked so far to get, the women hold their buckets at arm's length and lighten the load by wearing a large wooden hoop against which the handles of the pails press. Women dressed in spotless white, as they walk gracefully along the rocky roads in the middle of a big hoop, a pail of water in each hand, make a picturesque sight.

In some other village you may encounter a woman cutting hay in the graveyard that surrounds a tiny church built on the cliff by the sea. Or perhaps she will be taking the hay home tied up in a bed-quilt slung over her left shoulder, a pitchfork—used alike to pitch hay and fish—in her right hand. Her head is tied up in a bright cloth and a big apron protects her hand-made skirts. The combination of strength and simplicity of nature is evident in these women's faces. They are not disturbed in mind by any questions outside of the home and the fish as they pass along the road, knitting in hand. The houses in the outports of Newfoundland are small. Water is at a distance and wood is scarce, so the family washing is

often taken to the spring. The soap is boiled in a big iron pot, and while the children gather wood and tend the fire the mother washes the clothes or knits on a sock for her husband, or perhaps a son who is away with the fishermen's fleet.

In the summer the children go off berry-picking—fox-berries or partridge berries are most highly prized, and bake apples stand without a rival for making jam. At Hermitage, in the haying season, the whole family turns out to the harvest. Father, mother and children, with a shaggy Newfoundland pony in a springless cart, bring the hay home from the fields by many and devious ways.

Though the interior is heavily wooded, firewood is scarce in Newfoundland on the coast, and women often go many miles to gather a bundle of faggots from the dwarf bushes that cover the hills near the fishing villages. These bundles of wood they bring home on their backs. The older women seem to do this part of the work; a grandmother of seventy or eighty thinks nothing of walking two miles with her wood on her back. Besides baking bread, knitting, weaving, quilting, cooking, and all the rest of their household duties,



Coastline and Picturesque Fishing Village

the women take care of the little garden patches. But their chief work is with the fish. Fish rules Newfoundland. It is here that codfish is king. Rich and poor, high and low, men and women, owe it allegiance. For cod brings more money into Newfoundland than all other industries combined.

The traveller comes at the end of the second day's train journey to St. Johns, Newfoundland's capital. St. Johns is a flourishing city, having one of the best commercial and most picturesque situations of any town in the world. Its beautiful harbour has a good anchorage as well as an extensive one. High hills of granite surround it on the north and south, and the entrance is a narrow opening called "the Narrows" between precipitous granite cliffs to left and right. On the right a massive tower, called "Cabot's Tower," surmounted by a flagstaff from which a flag floats every day of the year, commemorates the discovery of the island by "The Great Navigator."

St. Johns is a smart little English city. And one has only to poke around among the wharves of the water front to realize how varied is the life, how extensive the trade, and how courteous and well informed are the people. The houses of the city are flung against the almost perpendicular hillside. The street opening off from the water front and running parallel with it is the shopping and business centre. Starting here a tortuous trolley line reaches the heights above the imposing Government Buildings and the large private houses, surrounded by lawns and gardens. The rise from Water Street is so steep that the sights and sounds of business do not reach the homes above, where the outlook across the harbour to "The Narrows" and the purple hills of the "South Side" includes a fine view of the stream of white-winged schooners that are constantly passing in and out of port.

St. Johns boasts an interesting Catholic cathedral, where the music is especially good. The English cathedral of Gothic design, not far away, is the parent church of the Church of England in Newfoundland, and is presided over by a bishop whose diocese includes Newfoundland, Labrador and Bermuda.

In the shops on Water Street are sold Eskimo dolls,

dog whips, moccasins and ivory toys from Labrador. The dolls are made from blocks of wood carved to resemble the features of the artist's wife or some member of his family, and then dressed in sealskin cut to the design of trousers, smock and hood which they themselves wear. When finished

these little wooden figures look like real men and women with old and care-seamed faces.

On the wharves, on the house-tops, on log stages, on barrels, stones, sheds—in fact, every available spot that will hold them—codfish are laid out in rows as far as the eye can reach. Millions of codfish may be seen at one time drying in the sun at St. Johns. You would naturally suppose that a fishy atmosphere would pervade the city, but, remarkable as it may seem, there is no odour whatever—doubtless due in a large measure to the fact that the fish is cured when it is brought up in the schooners from the outports and is spread out in St. Johns for a final drying before being packed in "drums" and "half drums" and shipped by the waiting square-riggers to Mediterranean, West Indian and South American ports.

There is a constant stream of incoming and outward bound vessels in St. Johns harbour, many of them moving under their own sails, with here and there a

busy tug towing up a "wind-jammer," molasses-laden, from the Barbadoes. This same molasses has been bought with the price of fish in Bridgetown. At one of the wharves a square-rigger is unloading Cadiz salt. Her cargo was bought with fish in far-away Spain. She will soon be outward bound again with another cargo of fish, to come again with more salt. The life around the docks is alive with interesting incidents

and people. Here one runs into schooners seen before in the outports, and the men will stop to chat and answer questions about the fish. Sometimes a captain's wife comes up in the schooner to do her marketing or to see friends and relatives, or a sick man is brought in on a stretcher to go to the hospital. Steamers bearing freight and passengers come into port with a long blow of the whistle by way of greeting.

A stream of carriages, mostly victorias, meet vessels and trains to convey passengers to hotels or to take them around town. St.



A Vegetable Garden in an Outport



A Pastoral Scene in the Interior

Johns has an extensive park, which is partly wild—the gift of Sir Edward Bowring and named for him.

But of all the interesting sights to be seen in St. Johns, the vessels of the great sealing fleet are the most absorbing. During the summer they lie at “the sealers’ berth” against the wharves of the south side, their masts huddled together like denuded trees. Behind the ships, on the wharf, are the great vats for clarifying the seal oil. The vats are covered by great glass roofs, which give them the appearance of huge studios. Here one may follow all the processes of “trying” the oil. But it is the ships themselves, grim old warriors, survivors of many a fight, heralds of many a one to come, that hold the tourist’s affection.

Although one sees fish in all stages at St. Johns, and the commercial life of the city hinges on the catch as finely as a rise or fall in stocks affects other cities, social gayety is not lacking. The Governor entertains during the season. The

Parliamentary circle represents the best and most scholarly people of the island. The Consular service and the official departments do a great deal of entertaining. There are good schools in St. Johns, but many young people of wealthy families finish their education abroad.

Newfoundland is very loyal to Great Britain and men everywhere refer with pride to the fact that she is England’s oldest colony.

One of these days Newfoundland will come into its own as a tourist resort. Its charms, however, are not limited to the summer season alone. The climate in winter is not rigorous, and the island is admirably adapted for sports such as skating, ice-boating, ski-ing, snow-shoeing and the like. And besides, the settled portion has almost as regular passenger service in winter as in summer.

Printed by courtesy of “Travel”

Canadian Officers Training Corps, University of Toronto

THE second training season of the C.O.T.C. closed with the academic year in May; and some results and figures may be recorded. In May 1915, 709 members of the Corps attended camp; 153 members qualified

for Certificate “A”, most of whom have since received appointments. At the opening of the session 1915-1916, 640 old members returned, and 1,141 new members were taken on the strength, making a total enrolment of 1781, being 317 in excess of the establishment. The formation of an additional company was authorized, to be known as “N” Company and recruited from graduates employed in the city.

Training commenced early in October. Besides the three drills a week for each company, four successful field days were held at Cedarvale. Through the Easter term lectures were given in the various subjects required by the curriculum, including instruction in musketry and as far as the facilities admitted, provision was made for firing practice.

In November, 1915, the British War Office signified its willingness to accept members of the Corps as candidates for commissions in the Imperial Army. These were selected by the Chief of the General Staff, and two drafts, of 31 and 35 candidates respectively, have already left, and a third list is now being compiled.

The written examinations for Certificate “A”, 1916, were held on March 25th, when 274 candidates presented themselves. Except in a few special cases all of these before being admitted had signified their willingness to go at once on active service.

The practical examinations were held during the first week in April, while the inspection, for “efficiency”, of the whole Corps, company by company, was held from March 31st to April 6th.

The following figures are added. They are dated March 31st, and therefore do not include those who have since joined the 67th Battery, C.F.A., or the University Overseas Training Company:



Draft of C.O.T.C. Officers for Overseas

	1914-15 (12 months)	1915-16 (6 months)	Total
Officers of the Corps on active service.	27	25	52
Members of the Corps who received commissions.....	149	75	224
Members of the Corps who enlisted on active service in the ranks....	257	216	473
Members of the Corps recommended as candidates for commissions in the Imperial Army		66	66
	433	382	815

Laus Varsitatis

A Song in Praise of the University of Toronto

BY STEPHEN LEACOCK

NOTE.—This poem is done in what is now being called *vers libre*. In my college days we used to call it worse than that. It would be false modesty to conceal the fact that this poem was submitted for the Chancellor's Gold Medal. It didn't get it.



O one I think can blame me if I want to
Exalt in verse the University of Toronto.
I always speak, I hope I always will
Speak in the highest terms of Old McGill;
That institution, I admit with tears,
Has paid my salary for sixteen years.
But what is money to a man like me

Toronto honoured me with her degree—
Oh, Seat of Learning, at whose Norman Gate
My feeble steps learned to matriculate,
Oh Ancient corridors and classrooms dim,
That youth that once you sheltered, I am him.
Ghosts of departed decades, wake and see,
That boy in the short trousers, I am he.
And after thirty years I bring along
This unsolicited return of song.

Roll back the years, O Time, and let me see
The College that was Varsity to me;
Show me again those super-sylvan spots
Now turned to choice suburban building lots,
Spread wide the trees and stretch the park afar,
Unvexed as yet by the electric car,
Till once again my listening ear shall seize
The Taddle murmuring among its trees,
And Fancy see in that far yesterday
The Bloor Street farmers hauling in their hay.

Thus at fond memory's call as through a haze
I see the men and things of other days.
Dim shades appear within the corridor
And noiseless footsteps fall upon the floor.
Lo! Noble Wilson — dared we call him Dan? —
Musing, the while, on Prehistoric Man,
Draw nearer still, O Venerable Shade,
Read me that lecture on the Third Crusade,
Let thy grave voice its even tenor keep,
Read it again. This time I will not sleep.

Profound in thought, melodious in tongue
I seem to see thee still, Oh Paxton Young,
How gladly I would ask thee, if I could,
One or two points I never understood.
You said one day that all our judgments were
Synthetically a priori, sir, —
I never doubted it, I never will,
I thought so then and I believe it still,
Yet whisper low into my ear intent
What did you say that a priori meant?

But see these shadowy forms, so strange yet like,
That head! — 'tis Chapman — and that brow — 'tis Pike.
That coloured chalk, that moving hand, that bright
Description of the Neurilemma — Wright.
That voice within the room — pause here and listen —
Mittel Hoch Deutsch — it is, it's Vandersmissen.

Oh Noble Group! what learning! There were some
Possessed a depth one hardly dared to plumb.
Others a width of superficialities that
Makes the professors of to-day look flat.
And all are gone, departed, vanished, nil —
Called to the States or summoned further still,

Some have resigned, or been dismissed, or died,
Others, while still alive, Carnegified,
And in their place their soft successors play
In flannelled idleness at Go-home Bay.

All gone? Not so, some still are on the ground
Fraser is with us still and Squair is round,
Still Hutton's Attic wit the classroom pleases
And Baker keeps at least as young as Keys is.
Others there are — j'en passe et des meilleurs —
Who still recall to us the days that were.

For those were days of Peace. We heeded not.
Men talked of Empire and we called it rot;
Indeed the Empire had no further reach
Than to round out an after-dinner speech,
Or make material from which John A.
Addressed us on our Convocation Day.
There was not in the class of '91
A single student who could fire a gun
Our longest route march only took us — well,
About as far as the Caer Howell Hotel,
Our sole protection from aggression lay
In one small company — its number K.

Oh, little company, I see thee still
Upon the campus at thine evening drill,
Forming in fours, with only three in line,
A target for such feeble wit as mine.
All honour to the few who led the way,
Barker and Coleman, Edgar and Macrae,
Geary, Ruttan and Andy Eliot who
Is now dispensing justice at the Soo,
And Ryckert — let me pause and think of him,
Is it conceivable he once was slim!
And, yes, perhaps the most important one
Friend of my youth, good Howard Ferguson,
The kindest man that ever failed to pass
In First Year Trigonometry, Alas! —
This man of place and power, has he forgot
His boyhood friend? oh, surely, he has not.
When next some well-paid sinecure you see
Oh, Howard, pass it, pass it on to me.

A noble band, these veterans of K,
Born out of time, living before their day,
Paying their own expense, their belts, their boots,
And calling ever vainly for recruits.
Oh K, thou wert O.K., but not to be
And sank as sinks a raindrop in the sea.
Yet from thine ashes — if a raindrop can
Be said to have such things — there then began
A mighty movement, and one well may say
You put the K in Canada to-day.

For see, the past has gone! It fades apace
And the loud angry Present takes its place,
Lurid and red, and shaken with alarms,
The thunder that proclaims a world in arms.
What sounds are these, O Varsity, that fall
Loud on thy corridors, the bugle call,
The muster roll, the answering cry, the drum,
As from thy quiet halls thy students come,

Oh ancient corridor! soft fall the light
Upon their hurrying faces, brave and bright,
Children they seemed but yesterday and then
As in a moment they are turned to men.
Hush low the echoes of thy stone-flagged floor
Footsteps are passing now that come no more,
Bid them God speed, Oh Ancient Gateway Grim,
Well may he speed them for they go for him.

And they are gone! The summer sunshine falls
Through the closed windows of thy silent halls,
The winter drags its round, the weary spring
And the slow summer still no tidings bring
Of their return. Yet still, Oh Gateway Gray,
Silent but hopeful thou dost wait the day—

And it shall come. Then shall the bonfires burn
To tell the message of their glad return.
Ho, porter, wide the gate, beat loud the drum,
Up with the Union Jack, they come, they come!
Majors and Generals and some V.C.'s—
Had ever college such a class as these?
Let the wine flow—excuse me, I forgot—
I should say, in Ontario, let it not,
But let at least the pop be strongly made

And more than lemons in the lemonade.
Let the loud harp and let the mandolin,
In fact, let any kind of music in—
And while the wildest music madly whirls,
Why, then—if I may say it—bring the girls.
And under circumstances such as these
Come, give them all gratuitous degrees.

And there are those who come not. But for them
We sing no dirge, we chant no requiem.
What though afar beneath a distant sky
Broken and spent, shall their torn bodies lie,
And the soft flowers of France bloom once again
Upon the liberated soil above the slain
Who freed it, and her rivers lave
As with their tears the unforgotten grave,
Whilst thou, Oh Land of murmuring lake and pine,
Shall call in vain these vanished sons of thine—
They are not dead. They shall not die while still
Affection lives and Memory fulfil
Its task of gratitude. Nor theirs alone
The sculptured monument, the graven stone;
The Commonwealth of Freedom that shall rise
World wide, shall tell their noble sacrifice.

Sir W. Peterson

THE EDITOR,
"Varsity Magazine Supplement"

Dear Sir—

I can't write articles, but I send you a few lines for the "Varsity Magazine Supplement" with all good wishes. War is a ghastly business, and it is some mitigation of its horrors to know that your Medical School, like ours, has done something to bring aid to the sufferers. What immense progress is indicated by the fact that surgeons now tend the wounded on the very field of battle itself, where formerly they would have been allowed to lie uncared for! In the organization of the war nothing is more impressive to the layman than the methodical way in which cases are conveyed from the firing line to the hospital train and so to the base hospital, where they are treated with all possible skill and care. Do not let us forget what we owe to the nursing sisters in this connection: "men make the scars of war, women mend them".

Hoping that you will be able to publish a successful number, and also that you will not forget to send me a copy, I am,

Yours very truly,
W. PETERSON.

Frederick Palmer

THE EDITOR,
"Varsity Magazine Supplement"

Dear Sir—

I apologize for my late reply to your letter of the 15th which I find awaiting me upon my return to town. It is a pity that just at this time I am too busy to comply with your request. Besides lecturing I am under agreement to do more writing in the next few weeks than I fear I can ever do in the time set.

My regret is the deeper because the cause you represent is so near my heart. I thrill every time I think of the part of Canada in this war. She is in the fight, clear-eyed and determined—the fight for civilization and individual freedom against militarism. She is paying the price that posterity requires for a great inheritance and a great tradition.

The next generation in the United States will realize that you have been fighting for us as well as Canada—for all free institutions on this side of the Atlantic.

With best wishes to your magazine and a cheer for Canada. I am,

Sincerely yours,
FREDERICK PALMER.

Lines Written in Sight of Gallipoli

(A Short Time after the Evacuation)

BY GEORGE THOROLD DAVIDSON

The dying day reclines in sombre arm, while night rolls down,
The setting sun reveals a crimson glory.
Eagean sky and sea, in rippling mood, and yon winged clown,
Of that Sarcophagus, fain tell the story.

Hush, thy hoarse note! foul fearsome bird, thou gruesome scavenger,
Let nature tell, in accents smooth and mild,
The glory of the Dead, not thou, wierd wandering messenger!
Where voices, Fleckless sky and Neptune's child?

With grief canst thou not speak; nor, faltering, tell the bloody tale?

The secret of that Rocky pile unfold?
To honour those who dying, live again, does thy heart quail?
Or in the telling can it not be told?

So be it then, that tale of love may not be told to me,
Too great to tell and hear, that love which was,
A Hostage to the world, that thought, and love, and life might be

Unwarpt by hun, who knows no human laws.
Keep thou, thy secret and thy dead, stupendous bloody pile.
Yet know we this, that love and life was given,
That death was faced with fearless heart, and soul and steady smile;

And chosen souls were gently waft to heaven.
And knowing this, we go in peace and heaven-born glorious hope,

Forgetting not, in that immortal day,
Unfettered soul and spirit with unfettered will shall cope
To love them more—and in a heavenly way.

Oxford in War Time

BY SIR GILBERT MURRAY

Regius Professor of Greek

THE English universities have responded to the call in a way that has earned them the highest commendation. Of course, the war has brought about the most extraordinary changes. As teaching bodies, Oxford and Cambridge are almost annihilated.

Take the student body at Oxford, for example—you may say that practically all the students have gone to the front. We have left the Rhodes scholars, the Indians, and a very few invalids. And that is all.

Christ Church is now an aviation school. Balliol and New Colleges have been made into war colleges—men who have seen active service at the front are finishing their education as officers there, and the colleges are in charge of the War Department. Somerville College, which is one of the biggest women's colleges in the country, is a military hospital.

But the students are not the only members of the universities whom the war has taken away. All the younger dons have gone to the front, and the older dons are working in the Government offices.

Hitherto I have managed to do all my regulation lectures, but I have permission from the university authorities to give them up whenever it is necessary. Of course, I am doing special Government work, too.

The women dons, the dons of the women's colleges, are proving very useful to the Government. They are employed in the Admiralty, the Board of Trade, etc., and especially in munition work. Many of them are acting as welfare superintendents in the munition fac-

tories doing work half of which is organizing and half of which might be called mothering.

I do not think there is any doubt, that the scholars of England are showing up well. I happen to have heard great admiration expressed by some one high in authority for the work done for the Government by two of our dons. One of them is an erudite and accomplished Greek scholar. The other is a textual critic of a rather minute habit of mind—the exact, almost inhuman type of scholar, one would say. But in the Government offices they seem actually to love him!

The young tutors at the universities have been found useful by the Government in a very special sort of work. They are used in what is known as Conciliation work. They conduct negotiations between the Government and discontented munition workers. Their habit of friendly discipline makes them tremendously useful in this sort of delicate diplomatic work.

The British universities have not been stopped by the war. The current of their energy flows on. It is as strong as ever, but it has been turned away from scholarship toward that sort of constructive work which the country most needs. We are rather proud to have demonstrated that we are not dried-up pedants, but men.

I think that the English scholar has always been a man of a different type from the German scholar. I have devoted some thought to this subject, and once wrote a monograph in which I dealt with it in some detail. Perhaps I can best express the difference between English and German scholarship by saying that the German scholars are professionals and the English scholars are amateurs. There is much to be said for the professional, there is much to be said for the amateur.

Germany is a country of specialists. In Germany there is more devotion in scholarship, and more loss of proportion. More people are willing to spend their lives in narrow and absorbed pursuit of some object which, viewed in cold blood, possesses no very great importance and no particular illumination or beauty. In England there is more humanity, more interest in life, more common sense, and, as an almost inevitable consequence, less one-sided devotion and less industry.

In sheer, straightforward, professional erudition Germany

easily leads the way. And the more professional the work is—the more it depends on labour, method, organization—the more absolute and incontestible is her lead. It is Germany which publishes the *Corpus of Greek Inscriptions* and the *Corpus of Latin Inscriptions*.

Germany has undertaken the great *Latin Thesaurus* and the great *Greek Lexicon*. In Greek grammar the four volumes of Kühner-Blass and Kühner-Gerth are without rivals in any other language.

Pauly-Wissowa's

"*Real-Encyclopädie*" is the greatest classical encyclopedia, Roscher's "*Ausführliches Lexicon*" is the greatest dictionary of mythology. And I know of no manual of Greek or Roman religion so comprehensive as the volumes of Iwan Müller's "*Handbuch*", by Gruppe and Wissowa.

In the great works of collection, too, the Germans have the lead. The work of Diels, von Arnim, Usener, Sudhaus, Karl Müller, the Teubners, and Lietzmann is of great importance. And in periodical literature and the small dissertations the German lead is enormous. I should judge that the bulk of specialist journals and magazines must be fully ten times as great in Germany as in England, and that of tracts and dissertations even more disproportionate.

This being the case—all this credit being given to German scholarship—it nevertheless remains that there is something to be said for English scholarship, and for a certain kind of superiority in English scholarship over German scholarship. The point which I wish to make is this, that if instead of looking merely at the effectiveness of a book we try to estimate some quality in the mind of the writer, the comparison will come out in a very different way. The quality in question may be some form of what in England is called "scholarship," it may be something much wider.



Magdalen College, Oxford

For instance, I have said that the best Greek grammar is that of Kühner-Blass-Gerth. But if one wanted guidance on some very delicate point of Greek usage, and was looking for some one with a subtle *flair* and feeling for the language, there are at least two Americans and certain English people whom I would consult in preference to any German scholar.

Where a thing can be ascertained and proved, and the instances counted, I go to the Germans; where it is a question of feeling, I do not go to the Germans.

This difference goes along with a great difference in method. In England we write Greek and Latin, both prose and verse. In Germany the best scholars have a great command of fluent Latin, and often can speak it without hesitation. But otherwise they are not good at "composition". I have had undergraduate pupils who wrote better Greek prose and incomparably better Greek verse than any German known to me, with perhaps two exceptions.

Germans do not write Greek verses; they write books on Greek "Metrik." They aim more at knowing; we at feeling and understanding. They are professionals, as I said; we are amateurs.

I know of nothing which more admirably illustrates the English attitude of mind toward the classics than such an institution as the Greek and Latin verse competition which forms a regular feature of *The Westminster Gazette*. The people who go in for this competition are by no means all of them dons and schoolmasters. Elderly K. C.'s go in and win prizes, and Indian civilians and people of all sorts of unacademic pursuits. It goes to show that scholarship with us is an art rather than a science, though, of course, like other arts, it has its scientific basis. It is even expected to form an integral part of character; it helps to make "a scholar and a gentleman." And, if one tries to analyze that old-fashioned phrase, assuredly the scholar is one who feels certain beauties and delicacies, not merely one who knows many recondite facts.

We may put the same distinction from another point of view. Both Germany and England use classical study mainly

as a general foundation on which the later practice of the literary and learned professions is based. But it would seem that in England the study of the classics has conserved to a great extent this general and foundational character; in Germany, it either was dropped or became professional.

It does not seem to be possible to find in Germany men like Mr. Gladstone, Mr. Asquith, Lord Bryce, Lord Cromer, Lord Halsbury, Lord Morley, and many others, statesmen in the first rank of public life, who read and enjoy their

Homer and Plato and Lucretius. The corresponding German phenomenon would perhaps be a specialist professor who might be given a title and invited to write a pamphlet about some political question. With us the statesman, in many instances, is a good Greek and Latin scholar, and takes an interest in ancient studies. With the Germans, the professor is likely to be decorated and produced in public with *éclat* when he is wanted.

The professional against the amateur, the specialist professor against

the "scholar and gentleman"—these two antitheses take us a long way in understanding the general difference between German and English scholarship. We are aiming always at culture—in Arnold's sense, not Bernhardt's. The Germans are aiming at research or achievement.

I am inclined to think that the difference here indicated goes deep. There have been several books produced of late years in England of which one could say this: They are the work of professional scholars possessed of much exact learning and a decided spirit of research, yet the moving impulse which produced the books is really the impulse of the artist. In Germany we find nothing of the sort. There the work of scholarship is produced by a specialist with only specialists in mind as readers. In German scholarship we find, as I have said, the spirit of the professional, where in English scholarship we find the spirit of the amateur. And the spirit of the amateur is, after all, the spirit of the artist.

By courtesy of the "New York Times"



Christ Church College, Oxford



Advanced Dressing Station on the Aisne



A Field Ambulance on the March

Learning to Fly

THE OBSERVATIONS OF A MILITARY AVIATOR

MY EDUCATION as a French army aviator was declared complete last week. I have received my brevet to pilot a reconnaissance machine, and after my brief *permission* in Paris I am starting for the line. Frankly, I know that I may not come out alive; and it has occurred to me that I would better record now, as I have always expected to do after the war, some of my impressions and observations on the art of flying. They are talking a lot about preparedness at home; and one of the first things we must do is to build up an aviation corps. Perhaps this article may serve to help point us in the right way.

Although I am an American by birth, training and nationality, I have enlisted not in that American squadrilla which has been doing such good work at the front, but in a French Corps. My teachers and associates have all been French; I am the only foreigner among them. Consequently I have been in a position to see how the French handle their own men — their regular method of making aviators out of raw material.

To begin with, I came to the job with a little preliminary training. I had driven racing automobiles at home and had the "feel" for engines and steering. So, too, I had made one or two flights with a French aviator. I had already experienced, as most raw pupils have not, that sense of fright when you realize that the machine is about to leave the ground, and that sense or reassurance that follows when you see the ground dropping away from you and find that you are sitting in something strong and stable, like a ship at sea. Before I tried flying a sheer height always made me faint and dizzy. I have never had the same feeling in an *aéroplane*; and other aviators who began with that instinctive terror tell me the same thing.

In spite of my preliminary experience I had to begin with the others at the bottom of the primary class. Under the French system classwork and field practise go together. Before they let you take hold of a machine they give you thorough training in engines. You must even take an engine apart and put it together again. Then there are lectures and classroom instruction in machine and air dynamics and in the whole theory of flying. All that is like going to college again. The really interesting part, of course, is the field instruction.

At that time the method of instruction was a little different from the one they are following at present. Military *aéroplane* work is divided into three classes, corresponding to three classes of machines: There are first the light *appareils de chasse* — the fighting machines.

Of these the Nieuport is the commonest type in the French army. They are very fast—capable of nearly one hundred miles an hour. They carry a *mitrailleuse* which is always in fixed position. In order to aim it the pilot must point his machine. The *appareil de chasse* is not only fast but it is capable of the quickest manoeuvring, which is why it can fight on more than equal terms the heavy armoured machines.

Heavier and slower are the observation machines. They are large biplanes, mostly Farmans, very stable and moderately fast. Whereas the *appareil de chasse* carries only one man, these carry two—an observer and a pilot. They have a machine gun fixed before the observer's seat and running on a swivel, so that it can be pointed in almost any direction. As the name implies, they are used to observe the enemy's movements, to record those movements by photograph or by notes, and to mark for batteries. When necessary they fight, but attacking the enemy is no part of their function.

Finally, there are the heavy armoured bombardment machines. Although they are the slowest of all, they are the ones generally used for bomb raids into enemy territory. They are employed also for guarding cities. Neither an *appareil de chasse* nor a reconnaissance machine can carry enough bombs to make a really effective raid. Many of these bombardment machines have not only *mitrailleuses* but small nonrecoil cannon as well. On account of their low speed they are usually accompanied on raids by an escort of *appareils de chasse*, whose task it is to fight off the enemy machines.

Now it has become recognized that the work of the *appareils de chasse* is the most important of all—or rather that it calls for the greatest qualities of skill, courage and intelligence in the aviator. The famous aviators of whom the public hears, like Navarre, all made their reputation with the little fighting Nieuports. So at present the men who pilot these machines are graduates from the other two classes. A man is promoted from a reconnaissance machine to an *appareil de chasse* because he has shown qualities of skill and initiative. Before he is sent to the line with this new machine he has a few weeks of special instruction.

When I began they were training the three classes of aviators separately, since it was then the theory that each man should run only one kind of machine from the beginning. It happens, however, that I know by experience the method of training each class; for they started to educate me as an *avia- teur de chasse* with a Nieuport machine. But I am



British *Aéroplane* equipped with an Automatic Gun

large and heavy; and after a few weeks it was decided that my weight was a handicap, so that I began all over as an *aviateur de reconnaissance* with a large Farman biplane.

After I had received my preliminary instruction in the construction of Nieuport machines and the technique of handling them, I was put on a machine called the "roller" and given my first instruction in steering. The roller is simply a Nieuport whose wings have been cut down to such an extent that it will not rise—except for perhaps a foot or so in a great burst of speed. It runs almost like an automobile. By its use one develops the instinct for steering in a straight line and for turning. It is really much harder to steer a roller along the ground than to steer a real machine in the air. The contact with the earth is always twisting and turning it in the craziest fashion. By the time one has finished his course on the roller he understands horizontal steering and knows something about the management of his engine. Perpendicular steering, which is more important, of course, comes when he is promoted to a "penguin." This is a complete machine, except that the engine is so weak as not to permit it to rise more than twenty-five or thirty feet. On it the student aviator practices rising and descending, and especially the art of landing.

Landing is the most difficult and the most important department of aviation. Half or three-quarters of the accidents occur because the aviator has made a bad contact. It used to be noticed in the early days of aviation that most of the accidents occurred near the ground. People supposed that this was because the lower air currents are the most treacherous. That is not true. I am inclined to think that, with the exception of "holes," air currents have little to do with aviation accidents. It was because aviators did not know how to land. You must shut off your engine, catch the air and volplane down against the wind. This is most important. If you land with the wind, even the lightest breeze, you are like to turn a somersault and bring up smashed under your own engine. But volplaning down and facing the wind are not enough. Just before alighting you must make an upward turn, so that the machine at the moment of contact is travelling parallel with the ground. It is beautiful to see how a master drops as lightly as a feather. If you fail to make that little upward turn at the right moment you will strike with a force that will either

wrench your machine or smash it, according to how fast you are going and the nature of the ground.

When he had learned to land, the apprentice *aviateur de chasse* was given a machine of old type and allowed to make a short flight.

However, I was shifted over to the reconnaissance department before I reached that point; and so had to begin all over again. In the reconnaissance department they started you at once on a big biplane with a system of double controls. This is better than the roller and penguin; but those little *appareils de chasse* carry only one passenger, so that a system of double control is impossible with them.

The double control works in this way: Your controls and pedals are exactly like those of your *moniteur*, or instructor, and are connected with the engine and steering apparatus in exactly the same way. Either set will steer the machine. You

take hold of the controls and put your feet on the pedals. Every motion your instructor makes is duplicated in your own control and pedals—your hands and feet are moving with his. So you develop from him the sensitive reaction and the instinct for doing the right thing with the machine. After my monitor had made several flights with me he began to take his hands off the controls and let me fly alone. Finally he permitted me to make a landing. That was not so difficult in my case, because I had already learned on the penguin something about landing. However, he kept his hands on the controls and his feet on the pedals all the time. When next we went up together we used a tandem machine; his seat was directly behind mine. He had controls, but after we got up in the air he did not use them at all. I did all the flying. Once I made a little false move and he reached over my shoulder and corrected it. That time I made a landing all alone.

I was now ready to fly it without assistance. When next morning the mechanics rolled out an old-fashioned, single-seated biplane for my use I admit that I was frightened and nervous. I should have been less nervous, probably, had no one been looking, but my monitor, my captain and my two mechanics stood there watching to see how the cub would handle himself. I got my nerve only when I rose and found myself flying smoothly and easily. I did not ascend that day more than five hundred feet. I landed a little bumpily, but without breaking



An Aéroplane Scout



Machine Gun in Air Craft

anything in the machine, and the captain said that I would do.

Five hundred feet seemed to me a tremendous height just then. Within two or three more days, however, I was allowed to go a thousand feet, and then fifteen hundred. Now I was ready for my trial and for my certificate as a military pilot.

Perhaps I had better stop here to describe some of the dangers of flying. Except for actual destruction, there is almost only one thing which will bring an *aéroplane* down—loss of speed. In the school they call it *perte de vitesse*—loss of speed—and it is the devil of aviators. You must keep a certain pace which varies between different machines according to their wing spread. When the engine is running the propeller furnishes that speed; when you shut off your engine and volplane the attraction of gravitation produces the same result. The indicator just in front of you shows you when you are slowing up to danger point. If, when you shut off your engine and start to volplane down, your wings are not inclined at the right angle, you may momentarily lose your speed and drop or—what is worse—“go off on the wing.” By that I mean that the machine may begin sliding down sidewise in such manner and with such force that your rudders cannot right you or that the propeller cannot pick up your forward speed. Going off on the wing is the great danger in making too rapid a turn. The way to recover your balance when this happens is to remember that as the machine dips your horizontal rudders become your vertical rudders, and vice versa. You must think quickly and act still more quickly in this emergency or it is all off with you. Among the accidents to beginners this, next to faulty landing, is the most common.

It is a curious fact that the things which are the dangers of a new aviator often become his safety when he grows expert. Take this very case. A master will deliberately go off on the wing and right himself by the use of his horizontal rudder. That saves us every day in doing observation work above the line. When an observer, circling to mark batteries, perceives from sight or sound of exploding shells that the enemy is getting his range he will deliberately go off on the wing, thus suddenly taking an entirely new course and forcing the enemy to readjust their sights.

An air hole causes a sudden *perte de vitesse*. That is why it is so dangerous. I have run into an air hole only once. It happened shortly after I began to take out the machine alone. The day was rainy and miserable, which made the accident all the more singular—air holes are most common on warm days. Suddenly I felt the machine check its speed, for no particular reason, and dip backwards. I looked at my indicator. I was just on the margin of safety. I threw the machine forward with all my strength, and suddenly the speed indicator shot upward. I had passed the air hole and was moving forward again. But although it was only a matter of seconds, it was a close call.

Many aviators believe in meeting such an emergency by taking hands and feet off the controls and pedals and letting the machine right itself. These modern *aéroplanes* are made so stable that they will frequently do this if let alone. A curious instance of the kind happened up at the front only a few weeks ago. An aviator was marking batteries with an observer. Just as they reached the danger zone the Germans got their range with shrapnel. The pilot was shot through the heart and killed instantly. His observer knew nothing about running the machine and, moreover, he could not possibly have got the pilot out of the seat and have taken hold of the controls in time to save himself. He could only wait

there for death. Fortunately the pilot, with a kind of a reflex motion, had in dying shut off the engine. The machine went off on the wing, righted itself, went off on the wing again, volplaned, went off on the wing, and so on. It happened that by some freak of its course it turned toward our line. They tell me that it behaved exactly as you will sometimes see a leaf behave in an autumn wind. If it had been going off on the wing when it reached the ground the whole thing would have smashed. Fortunately it happened that at this moment it had righted itself again and begun to volplane. Although the apparatus was badly strained the observer was not even scratched.

I know another case where an aviator, in a curious and highly dangerous situation, saved himself and his observer partly by letting the machine go. They were under shrapnel fire, and a splinter of shrapnel casing struck his observer in the neck, causing a ghastly wound. The observer fell over against the pilot. The pilot, it happened, had a little brandy in his pocket. Steering the machine with one hand, he kept the observer from falling out. In some manner, which not even he understands, he soaked his handkerchief in that brandy and roughly dressed the wound. To do this he had absolutely to relinquish the controls, but the machine volplaned of itself for a few seconds. For the rest of that volplane he held the observer with one hand and steered somehow with the other. They made a bumpy landing, but they came through all safe. Shortly afterward a light gangrene started in the wound of the observer. The surgeons said that he would certainly have died from gangrene if the aviator had not applied that antiseptic brandy. As it was, he recovered. The aviator, of course, got the *Croix de Guerre*.

There is one accident against which most aviators are powerless. That is what we call in the schools *cheval-a-bois*, or, as we say in English, “merry-go-round.” In an air hole, or occasionally when an aviator has made a very bad turning in “spotted air,” the machine will begin to whirl round and round, not on its centre of gravity as an axis, but on the tip of its own wing. It is quite impossible for most of us to right the machine when it does this. And yet Navarre, who has probably the best technique of any aviator in the world, will sometimes deliberately make his machine do a *cheval-a-bois* and then right himself. How he does it I do not know, but I have watched him perform the feat and nothing I ever saw in the air thrilled me more. It is an instance of the principle I have cited before—the dangers of an inexperienced aviator are often the devices of a master.



An Air Scout's View of Hill and Plain

As I have said, I had been flying higher and higher before the time came for my official test or brevet. I had also been making longer and longer flights. My first attempt alone in the machine had lasted only five minutes. I was now flying an hour or an hour and a half continuously, yet the brevet called for higher and longer flights than I had ever performed. I had, however, gone high enough to learn to train my eye.

Perhaps those who have watched *aéroplanes* at work have wondered why an aviator almost always cuts a spiral course as he approaches the earth. There are two reasons for this: In the first place, he is manœuvring so as to land against the wind. In the second place, he is accustoming his eye to the ground—recovering his judgment of distance. After one has been up for an hour or so at anything like a respectable height he loses his sense of altitude. He cannot tell by the eye whether he is fifty feet or two hundred feet from the ground. It is necessary always to train his eye for distance again, just as a baby trains it. This takes only a few moments, but it is absolutely necessary.

For my brevet I had to make two flights of two thousand meters, or roughly more than six thousand feet. I took up with me a registering barometer to prove my record. The next day I had to fly an hour at three thousand meters. I may say that, except for the deafness inevitable at these great heights, these flights seemed to me no different from my flights at thirteen hundred feet. I even had, I remember, an extraordinary sense of freedom and power. The next test was a little more difficult technically. I had to rise to fifteen hundred feet, shut off my motor, spiral down and land on a given space. I almost failed in this test, because, though I struck the right spot, I made one of the bumpiest landings in my experience. However, the captain and the monitors decided to pass me on the strength of my previous good record in landing. Then came what I might call the endurance test—the triangle. This is a flight of two hundred and fifty kilometers, or about a hundred and fifty-five miles. I had to make three landings at various towns where there are aviation fields—the third on my own field. At each of the other two landings I had to report to the aviation officer in charge and receive a certificate. The aviator whose machine breaks down on his triangle flight has forty-eight hours to make repairs and finish the test. If he does not report within those forty-eight hours he has failed, and he goes back to the school.

The day of my triangle test was a bad one for flying. It was the first warm morning in early spring, and a disturbing mist was rising from the ground. The air was spotty and there were a good many small air holes. None of these, however, was serious enough to cause *perte de vitesse*, but they did keep the machine bumping like a bronco. On finishing the second leg of the triangle I mistook another flying-field for my destination and lost an hour while I landed, rose again, and found my way. Otherwise I passed this test perfectly. The misty day, though it rendered flying dangerous for a novice, really helped me. One has to make his triangle in any sort of weather, and aviators who have passed all the other tests fail sometimes to get their brevets through losing their way in fog or rain.

I was now a full aviator, with the rank of corporal, with regular pay of five cents a day, and with an additional allowance of forty-five cents as a member of the Flying Corps. I was not finished with my instruction, however. I had two months more at the school learning the arts of observation and of bomb-dropping. During that time I did a little practical work in bringing machines back from the front to the school; and once I flew with another aviator above the battle of Verdun. This was my first experience of flying under fire. There was a big artillery attack on the Mort Homme that day, and I had a chance to see a battle from above. The Mort-Homme position looked to me more like a boiling kettle than anything else I can think of; and over it all hung a yellow mist. Several shrapnel shells burst near us. At nine or ten thousand feet in the air one is almost deaf with air pressure, and the sharp crack of exploding shrapnel came to us only as a kind of a dull "whung." The whistling of the shells, which sounds so loud when you hear it from the ground, was scarcely audible to us at all. At those heights it is almost impossible to hear the loudest conversation. When it is necessary for you to have a talk with your observer, you close your nostrils by pinching your nose and blow out your ears with one sharp blast of breath. After that you can hear quite plainly for a minute or two; then the internal pressure gets you again. Incidentally, you are always stone deaf for a few minutes after landing.

Under the present French system aviators and observers are trained together in observation work. During most of my study my partner was a young man just promoted from the ranks of the artillery. You go up together, and the instructors on the ground below burst bombs of a certain kind made to imitate the action of shells. You are obliged to guess their distance from a given object, until you develop the faculty of reading distances. You are trained also in map making and in photography. In real observation work the observer



Naval Seaplane among the Clouds

does all this. The pilot merely flies and occasionally fights his machine. But it is thought best for the pilot to have the same technique as the observer in case anything should happen to the latter. Then again, if the observer and pilot are on good terms the pilot can occasionally help with observations and advice.

We were taught aerial gunnery. Besides the machine gun, the pilot and the observer of a reconnaissance machine usually carry rapid-fire rifles. Some of us, however, prefer pistols; and I myself, having learned the art of pistol shooting in the West, intend to trust to an old-fashioned forty-five.

Our method of learning bomb-dropping is peculiar. We have a machine with full bomb-dropping apparatus rigged on stilts perhaps forty or fifty feet high. At the foot of the apparatus there is a false landscape—a regular piece of painted theatrical scenery rigged on rollers so that it can be revolved to imitate the passage of the earth under your machine. We drop property bombs on this as on a target, and there is a system for marking hits.

We also received thorough classroom instruction in the trajectory of shells. It is necessary in observing to keep away from the artillery fire of both sides; for occasionally, at the immense range and high trajectory of modern gunnery, you

may find yourself in the track of shells meant not for you, but for the troops on the ground. The little seventy-five guns at long ranges have a trajectory that describes a parabola. The very heavy shells, like those of the famous German Big Bertha guns, rise to a point almost over their target and then drop suddenly. It is necessary to know this and a hundred other peculiarities of artillery fire. If you should happen to be in the track of one of these great shells it would simply annihilate you and your machine. An aviator I know had his foot taken off by a shell. He managed to come down before he had bled too much to recover; and he is alive to-day. It was calculated at the time that this did not happen from anti-aircraft fire. He simply got into the path of a 77 or 75 caliber shell—probably one of our own.

I shall have my first experience with real reconnaissance work next week, so that anything I have to say on that subject necessarily comes second-hand; but I have heard a great deal of it in the past six months. When you go to mark for batteries your instructions are to stick it out for a certain time unless the object of your battery is accomplished, when you may return. You are not there to fight unless attacked. If the attack comes, it will be from one of the little, fast *appareils de chasse*, like the Fokkers, which are better fighting machines owing to their speed and mobility. Usually when your side expects such an attack they send out one of your own *appareils de chasse* to do your fighting for you. If you have no escort it is, nevertheless, your business to stay and fight or drop, because you are there to make the fire of your battery effective.

The observer has a wireless telegraph apparatus without receiving machinery. He flashes the results of the firing by code signals—"one hundred yards to the right, fifty yards to the left"—and your battery has a system of signals to let him know that the message is understood.

It is a curious fact that in the early days of the war many artillery officers refused to follow the directions of the aerial observers. A colonel of artillery who has been shooting big guns all his life is often disposed to think that a young observation officer and a mere aviator do not know enough about their business to tell where the shells are falling. So orders were given that the artillery must be absolutely under the direction of the observer, and that in case the battery persistently refused to follow signals the pilot had the right to come down and report the fact at headquarters. That stopped the trouble.

When you are doing artillery observation work you must stay and die if necessary; but it is another matter with reconnaissance or photographic work. Here the main thing is to get back with the information. If, therefore, you are attacked and you see no chance of bringing down the enemy, it is your business to run. There are a number of ways for a Farman biplane to escape the little *appareils de chasse*. Though they are much faster, they have developed speed at the expense of height. They cannot go much above nine or ten thousand feet, whereas you can go nearly twenty thousand in case of necessity. If you are coming back with data and you see an *appareil de chasse* approaching, you turn up your nose and rise as fast as you can. Then you can often take refuge in a

near-by cloud. This, by the way, may be ticklish business. There is always a sharp belt of low temperature at the edge of a cloud. It may produce air holes; and always as you approach a cloud the machine bucks like a bronco.

There are two varieties of anti-aircraft guns, the mitrailleuse, or machine gun, which takes care of you at low heights, and the regular anti-aircraft cannon, usually of 77 or 75 caliber, which shoot shrapnel and begin their work when you are at an altitude of about four or five thousand feet—the point where the mitrailleuse grows ineffective. It is a question among military aviators whether they would rather face machine-gun fire or anti-aircraft cannon fire. I know at least one commander of an aviation section who always sends his machine over the line at an altitude of about four or five thousand feet, because he believes that there is less danger from the mitrailleuse than from shells. Others differ from him. As a matter of fact, machines seldom come back from a reconnaissance or from artillery-observation work without a few holes in their wings, and I have seen machines brought back to the school for repairs which seemed literally peppered, and still came down intact with the aviator and observer uninjured. Shells bursting above you are generally less dangerous than those bursting just below. The shock drives you toward the earth's centre of gravity and eases off the blow. A baseball player knows that he lessens the force of shock

from a pitched ball if he draws his hands toward him at the moment of impact. It is the same thing here. However, shrapnel often throws downward; and a shell bursting above you may strike you or some vital part of your machine.

On the days when there is what the French call a low ceiling of clouds, artillery-observation work is almost impossible. That is the time set apart for certain shifts of position and for other tricks of the air service which I had best not describe here.

In thinking the matter over this week, when my real service is about to begin, I have wondered if I haven't

gone past the most dangerous part of my service with the French Flying Corps. It is a fact that two or three men are killed by fool mistakes to one who is killed by the enemy. In the nature of things one makes most of his mistakes in the early days of his instruction. So far I have done nothing foolish, but I am trying not to be proud of it. Part of my immunity is due, I suppose, to the fact that I had driven racing automobiles before I entered the Flying Corps and have, therefore, the instinct for the action of an engine. However, there are certain perils of the air, quite apart from the fire of the enemy's guns and the attacks of his *appareils de chasse*, which no aviator can entirely avoid.

I have heard it said that a sailor fears only fog, fire and a lee shore. The same rule applies to the navigation of the air. Take fog, for example. As I have explained before, the most ticklish operation in flying is landing. Now in a dense fog you must land almost by chance. You cannot see the ground until it is too late for your sight to be of any use. Your altimeter is supposed to register your height above ground. However, no altimeter has yet been made delicate enough to register exactly. Moreover, it is always fifteen or twenty yards behind your real height or depth. Yet the only thing



Anti-aircraft Gun on Armoured Train

you can do is to trust to your altimeter, deducting fifteen or twenty yards to allow for this peculiarity. That is not all. The altimeter "begins at the ground"; it registers your height above the altitude from which you started. Now since all ground is more or less irregular, you may be coming down on a point a hundred feet or so lower than that from which you started, or, worst of all, a hundred feet higher. Then, of course, you may strike bad ground—houses or shrubbery or fences. In night flying you do not have this difficulty, because they light flares to guide you and to show you the ground.

Trees are a danger at any time, whether it is a case of fog or of your engine stopping. You can often pick bare spaces in a town, but not in a forest. If you see that you have to come down in a wood there is only one thing to do: Stop volplaning and just drop. For if you drive into a tree head on, it is all off with you and your machine—you haven't one chance in a thousand. But if you drop straight down there is a chance that the machine will break its fall by catching on the branches of a tree, and that you yourself may be able to grab a branch or may fall on top of the engine.

My closest call happened when I was bringing a machine back from the front and the engine stopped over a forest. It was a big Farman biplane, made to carry two passengers and some paraphernalia; however, I was flying in it alone and without baggage, so that it wanted to climb all the time. I was nearly exhausted with pushing forward on the levers to keep down its nose. Perhaps that is the reason why my engine stopped on me; I must have been too brutal with the machine. There was a bank of clouds above me, and I wanted to see where I was going. For that reason I had been flying very low.

There was nothing to do but volplane down and take my chances that I could reach the open field beyond the forest. I gave the machine all the height I dared without risking *perte de vitesse*. By the time I saw clear ground ahead I felt that I was shaving the tops of the trees.

Just as I was getting ready to congratulate myself I realized that my fix was tighter than ever. The wind was behind me and, as I have explained, you must always land facing the wind or else you are due for a smash-up. And right in front of me, across the open field, was a close line of poplar trees bordering a canal. I couldn't clear them. It was necessary for me to turn within that line of trees; and it was the shortest turn I have ever made. I took every chance of going off on the wing and falling sidewise under my engine. On one beam I seemed just to graze the poplars and on the other I could feel the machine beginning to slide. I probably had no more than six feet of leeway. But I brought her to the ground undamaged, crawled out, found what was wrong with the engine, started up, and finished the flight.

Such emergencies as this furnish the reason for the thorough drill in machinery and engines which they give you in the school before they ever let you go up. In the *aéroplane* bases they have mechanics to care for your machinery, but at such times you must be your own mechanic, especially when the accident happens in enemy territory.

The danger from fire has never been eliminated, although it is not so great as it was before *aéroplane* engines reached the present standard of excellence. The trouble lies in the propeller. It is moving faster than anything made by man ever moved before. The slightest obstacle will break it. And if it breaks sharp off, the powerful intake of those air-cooled motors is sure to suck the flame into the carburetor, when the whole machine goes up in fire like a tin of gasoline. Of course the aviator stands no show at all. We are instructed from the first to leave nothing loose about the machine or about our clothing. Many a man has been killed because his cap blew off, caught in the propeller and broke it. It is even dangerous to leave a loose tool, such as a monkey wrench, in the chassis. If it happens to shake out backward, the powerful wind engendered by your high speed may carry it, heavy as it is, into the propeller. So fast and powerful is the motion of the propeller that I have seen machines come out of a hailstorm with the blades all split and splintered through

striking the hailstones. There have been many experiments with fireproof machines, but none has succeeded as yet. Fire-proofing always makes the machine too heavy and cumbersome. The trouble is that, except for aluminum, the lightest materials are also the most inflammable.

The principle of the lee shore I have partially explained already. You must land facing the wind. That is the first principle knocked into you in the schools. When flying low, an aviator dislikes to skirt any obstacle like a tree or a building on its windward—and his leeward—side; for if he is steering by compass or even by sense of direction, he is very likely to fool himself and edge over with the wind toward the obstacle. The French call this traveling *en crabe*. A course set by the compass, when you have a wind on the beam, is not a straight course at all. The wind is always sidling you away from your theoretical direction—driving you northeast-by-north when you think you are pointing due north.

This accounts for collisions in the air—an accident that happens sometimes even to experienced aviators and that is not uncommon in the schools. On my first day of instruction I saw one man killed and another crippled for life by such a collision, and it nearly took my nerve. They had started at the same time on what they thought were parallel courses. One of them made allowance for the wind and drove straight. The other did not. His machine began sliding over *en crab* until they came near each other—and suction did the rest. As everybody probably knows, that principle of suction accounts for a great many marine disasters. Two ships run close to each other and suction brings them together. It is the same with *aéroplanes*, only that in the nature of things the suction is a hundred times more powerful. When I hear those stories about *aéroplanes* attacking each other within forty yards, I always cross my fingers. Two machines approaching each other at that distance would come together and smash. The men who run the *appareils de chasse* understand that better than I do. In manœuvring to attack they try never to approach nearer than a hundred yards.

There are a few other dangers which one would never think about until they were pointed out by experienced aviators. We are taught to fight shy of our own *saucisses*, or military balloons. There is always a line of such balloons just back of the front. They are anchored by means of cables, which are invisible to an aviator approaching through the air. To collide with one of them means a fatal smash. However, we take advantage of one of their peculiarities. The cable always bulges to leeward, and in a good wind it bulges far. When we have to fly near a military balloon we always keep to windward. Another danger of the same kind comes from the set of wire cables that surround a wireless plant. Here you cannot count on the bulge caused by the wind, and the only thing to do is to keep away.

If I survive my work with the reconnaissance machine I hope to be promoted to an *appareil de chasse*. That is the ambition of all of us. The *chasseur* is the aristocrat of the air. Thaw, Cowdin, Prince, Rockwell, Hall, and other American aviators of whom we have rightly heard so much, all operate *appareils de chasse* and go hunting Germans in the air. In case I am promoted I shall have to go through a month or more of instruction in getting acquainted with the Nieuport machine, in aerial gunnery, in acrobatics, in attacking captive balloons and the like. Operating these fast and agile little machines is almost an art by itself. What keeps them up in the air is not so much their wing-spread as their tremendous speed. Owing to this fact, you can do all kinds of things with them which you cannot do with our bigger and wider-spreading Farmans. You can loop the loop in a Farman, but you always take a risk of breaking your wings. Their spread is so great that they catch in the air. With a Nieuport it is scarcely more dangerous than any other manœuver.

One great practical trouble with a Nieuport, however, arises from that small wing area. If your engine stops when you are flying a Farman, you can volplane down to a point equal in horizontal distance to fourteen times your height. On account of its small wing-spread, a Nieuport cannot volplane to a distance of more than two or three times its height. So

if a reconnaissance machine has engine trouble at a point over the enemy's trenches, the aviator can usually get back. The Nieuport, however, stands a relatively small chance.

That is all for now. To-morrow I start for the front. I have had a week's *permission* to get my kit—such items as paper mittens and socks to protect me from the intense cold of the upper air, rubber gloves to keep me from getting shocks when I fly through thunder storms, and a dozen other little

necessary articles which one would never think about until he learned flying. Day after to-morrow the captain of the section will call me before dawn and give me my job for the day. The rest of the aviation camp will wake up and sing Chopin's Funeral March. They always do that when a new aviator starts on his first fighting trip. They have developed an utter indifference to death, these French, so that when they mention it at all they make it a joke.

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Dry War and Red

BY DAVID STARR JORDAN

"**D**RY WAR" is a term applied by certain writers in England to the conditions which prevailed in Europe from the year 1908, or thereabouts, up to 1914. It was a period marked by many of the phenomena of actual war. It was characterized by the lining up of nations in opposing groups, the Triple Entente against the Triple Alliance, the ruling classes on both sides speaking familiarly of the certainty of war—defensive war always, of course. Meanwhile, retired officers and agents of the great armament concerns freely discussed its necessity, the moves to be made in its prosecution as well as the ends to be achieved by final victory. It was a pertinent observation of Treitschke that foreign war is the swift cure for disunion and waning patriotism. And the aristocracy the world over looked hopefully to foreign war as a remedy for democracy and to divert the common people from their age-long struggle against privilege. In every nation concerned, military expenses were piling up to a most alarming degree, crushing the people with a double load—the burden of taxation and the consequent rise in the cost of living. Everywhere was rivalry in military preparedness, joyously earnest in some quarters, doggedly sullen in others, but everywhere pointing to a consummation most abhorrent to the law-abiding people of Europe. Finance, commerce, industry, labour, science, art, religion, socialism, democracy—all seemed opposed to war, but these influences were powerless to check the movement.

The "Dry War" was known by other names. Certain French writers called it the "Race for the Abyss" ("La Course vers l'abime"). Others said "Frustrate War", the "Armed Peace", "The female of the species of which war is the male". Thousands of men saw real war as inevitable unless a different spirit should come to dominate international affairs. At the same time, it was evident that war anywhere along the line must end in unthinkable catastrophe in which no nation could gain anything and in which all might lose to a degree past calculation.

The "Dry War" arose particularly from the intensification of the mediaeval conception of a nation as an entity above and apart from its people. To some degree it rests on the idea of Absolutism still current in those regions of Europe least touched by freedom. In foreign war is found the sport of kings and the refuge of the aristocracy from the assaults of the people. In part again, it had its roots in the modern

enterprise of exploiting backward countries, lands which hold treasures little valued by their possessors, where labour has no rights and where there exists no restraints of hampering social or economic statutes.

The ventures and rivalries of exploiters constitute "The War of Steel and Gold", as Mr. Henry Noel Brailsford has termed it, "Real-Politik", materialistic polity, is that phase of officialism which deals with "spheres of influence", "concessions", foreign loans, and in general with those uses of capital which are prosecuted in secrecy, and in the less civilized parts of the world. "Politicians", says Mr. Brailsford, "think in cant as the masses and the aristocracy think in slang. For the secrecy of their foreign policy cant has provided them with a special excuse. . . . Democracy is incapable of a 'scientific' handling of foreign questions".

As it has been the main business of modern diplomacy to assist these adventurers and exploiters in their clashes with "lesser tribes" and with each other, diplomacy must itself go armed. And out of such rivalry in China, in Turkey, in Africa, has arisen the "Dry War", the "Balance of Power", the "Race for the Abyss", the "Armed Peace" and like unholy things.

And as "the last frontier" has finally faded away, as the last backward land has been swallowed up in some nation's "sphere of influence", the enterprises which seek something for nothing perforce turn against one another.

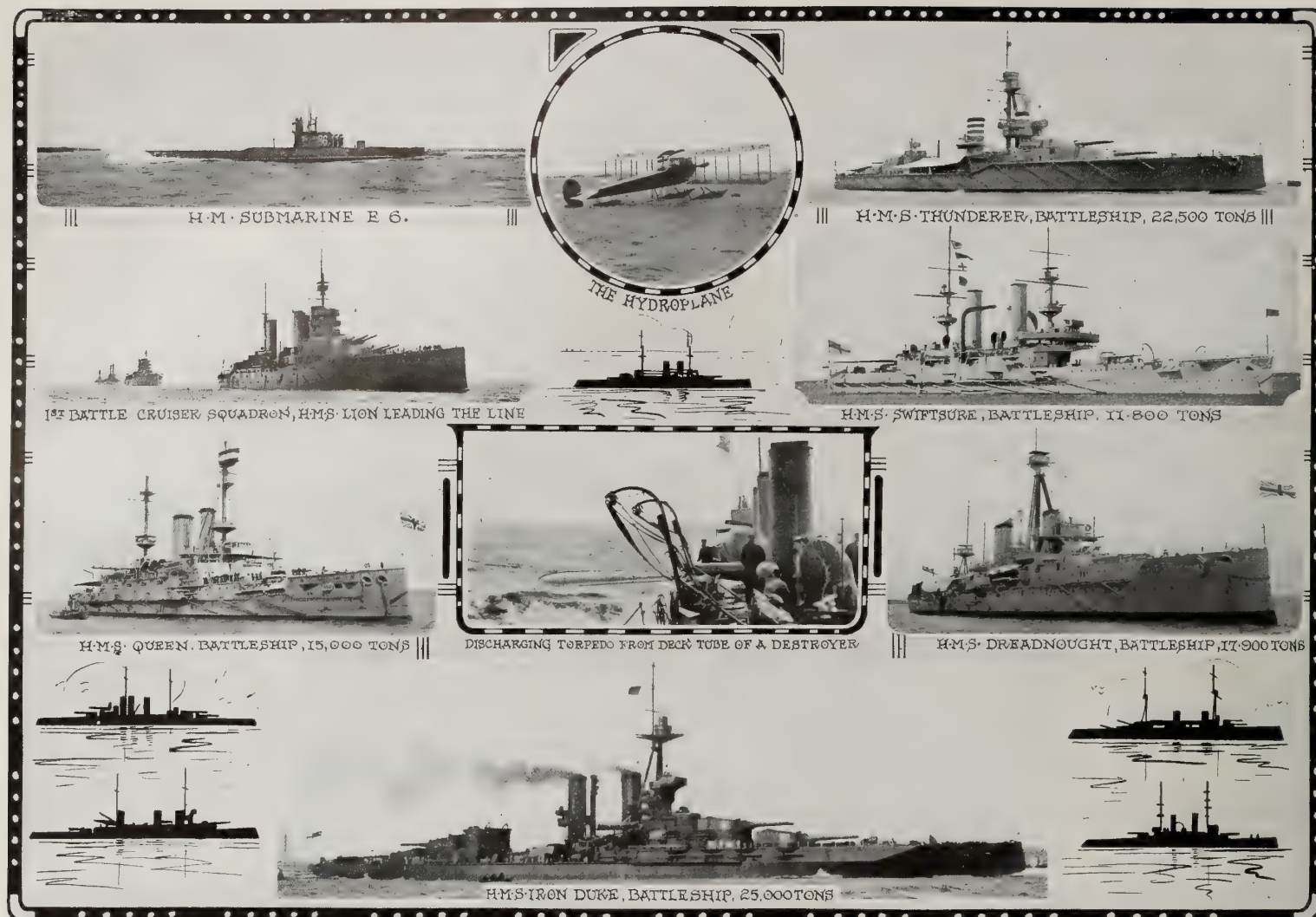
Next to backward nations in the scale of succulence come the little ones, those with populations too small to be resistant, yet at the same time blocking the way of greater nations in pursuit of their "manifest destiny". Here the nightmares of Europe find their place; Serbia as key to Constantinople, Antwerp, Rotterdam, Boulogne, pointing the way to the open sea. Alsace-Lorraine with her great fortresses of Metz and Strassburg guarding the Upper Rhine and the Moselle. The military groups of Europe, descended from mediaeval times, becoming constantly more powerful as more money was spent on them, had done their best to irritate sore places, to widen old wounds. The last frontier once reached, the "War of Steel and Gold" grew more intense and more definite. With the "Entente Cordiale" of 1904, and the seizure of Bosnia in 1908, the "Dry War" was fairly on, to culminate at last in the "Red War" of 1914.

On Those Who Die for England

BY MARJORIE L. C. PICKTHALL

When it is finished, Father, and we set
The war-stained buckler and the bright blade by,
Bid us remember then what bloody sweat,
What thorns, what agony
Purchased our wreaths of harvest and ripe ears:
Whose empty hands, whose empty hearts, whose tears
In this Gethsemane
Ransomed the days to be.

We leave them to Thee, Father. We've no price,
No hard-won treasure of the seas or lands,
No words, no deeds, to pay their sacrifice;
Only while England stands,—
Their pearl, their pride, their altar,—not their grave,
Bid us remember in what days they gave
All that mankind may give
That we might live.



Britain a Great Amphibian

BY THE RIGHT HONOURABLE WINSTON CHURCHILL

WHAT kind of a foe is this "Great Amphibian" which, for the first time in history, Germany has drawn out against her? Many valiant enemies has the Prussian army fought in the last 3,000 years, on the whole, with a balance of good fortune, but here is something new altogether.

Never before has the force and science of Central Europe come into armed conflict with the Western island. Far back along the fading paths of history crusading armies moved across the salt water to the fray. The chivalry of Crecy and the archers of Agincourt, who disembarked upon the coast of France, the sea rovers who affronted the power of Philip II. on the Spanish Main, and the soldiers who withstood him in the Low Countries; the armies of William III. and the Duke of Marlborough, humbling the glory of Louis XIV.; the far-ranging ships and stubborn infantry that sustained a great king in one century and warred upon a great emperor in the next had all had one birthplace, all were manifestations of one peculiar form of power.

Now at last Prussia—the embodiment of all that land energy could give—must join in unrelenting conflict with the Great Amphibian. It is no small proof of the shrewdness of the Prussian military instinct that they realized at once where the peril lay, and even while the German armies rolled forward to the terrific assault on the French frontier or drew up to withstand at heavy odds the hosts of the Czar, their hate and rage were concentrated upon the unorganized, black-coated, commerce-absorbed, politics-loving State which could scarcely at the outset put 150,000 men in the field.

Berlin mobs insulting with vulgar fury the departing

British Ambassador expressed the same well-founded apprehension as the discerning pen and venomous verse of Lisauer. Let us always labour to deserve these sincere and spontaneous tributes.

The Great Amphibian is a female beast, not clever, but very tough; shortsighted, but very patient; slow and clumsy, but very strong and fierce—strong as her homes in the broad seas. You cannot voyage upon them without seeing her dorsal fins cutting the blue water and all over the world she has deposited her young. She moves at all times freely about broad and narrow waters and when winded bars their passage to all others.

If need be she can crawl, or even dart ashore—first a scaly arm, with sharp claws; then, if time and circumstances warrant, a head, with gleaming teeth, and shoulders that grow broader and broader. Then she can draw out convolution after convolution of muscular body, till one cannot tell where the end of her may be found. Or she can return again to the deep, to strike anew, now here, now there—and no one can guess where the next attack will fall. While she fights her strength waxes. She is invigorated, not exhausted, by effort, as if her ancient craft in war is gradually revived in her as the struggle deepens. Only she eats too much, wastes too much, and costs a lot to keep. Withal the Great Amphibian is faithful unto death. She is very hard to get at—in fact, since she first learned to swim, no one has ever caught her.

The true characteristic of all British strategy lies in the use of this amphibious power. Not on the sea alone, but on land and sea together—not the fleet alone, but the army in

hand with the fleet. In this lies everything. In this already once in this war decisive victory has perhaps resided.

On the afternoon of July 26, 1914, orders were issued to prevent ships of the first fleet from dispersing, as would otherwise have been done at daylight on the 27th, and to recall such as had started. At midnight the ships of the second fleet were ordered to remain at their home ports, in close proximity to the balance of their crews. On the 27th all the naval aircraft were moved to vulnerable points on the east coast, the second fleet completed an informal "stand by," telegrams were sent to admirals abroad, and far away at the China station the battleship *Triumph* began to clear for action.

During the 27th and 28th the protecting flotillas along the east coast were raised to their full strength. On the night of the 29th the whole of the first fleet, with auxiliary cruiser squadrons and flotillas, passed the Straits of Dover and gained their war station in northern waters. On the same day an official "warning telegram" of approaching danger was issued. On the 30th the "precautionary period" began. Naval harbours were cleared, and modified examination service was instituted. On the 31st the immediate reserve was mobilized, and various reserve cruiser squadrons came into being.

On August 1, shortly before midnight a general mobilization of the navy was ordered, and the third fleet began to come to a war basis. This step was approved by the Cabinet on Sunday the second, and made regular by Royal proclamation next day. All reservists had, however, responded to the Admiralty summons, and on August 3, when the ultimatum was sent requiring Germany to evacuate Belgium, the whole process by which the naval power of Great Britain is placed in readiness for war was completed in all respects.

At a great war council held on the afternoon of August 4, attended by the principal naval and military personages as well as Cabinet Ministers directly concerned with the Admiralty, it was agreed to despatch immediately the whole regular army—not four, but six divisions, if necessary—to the Continent, and to undertake their transportation and the security of the island in their absence. This considerable undertaking was made good by the Royal navy.

Once more now, in the march of the centuries, Old England was to stand forth in battle against the mightiest thrones and dominations. Once more, in defence of the liberties of Europe and the common right, must she enter upon a voyage of great toil and hazard, across waters uncharted, toward coasts unknown, guided only by stars. Once more the far-off line of storm-beaten ships was to stand between a continental tyrant and the domination of the world.

It was 11 o'clock at night—12 by German time—when Berlin's answer to the British ultimatum was expected. The windows of the admiralty were thrown open in the warm night air. Under the roof from which Nelson had received his orders were gathered a small group of admirals and captains and a cluster of clerks, pencil in hand, waiting.

Along the Mall, from the direction of Buckingham Palace, the sound of an immense concourse, singing "God Save the King" floated in, and on this deep wave broke the chimes of Big Ben. As the first stroke of the hour boomed out a rustle of movement swept across the room. The war telegram, "Commence hostilities," was flashed to ships and establishments under the white ensign all over the world.

Aye, commence hostilities at once against Germany; urge them; persevere in them; concentrate upon them; repent not of them; pursue them to the very end.

Certainly Great Britain's entry into the war was workmanlike. Confronted by the greatest military power in the world and by a navy second only to her own, she acted with instant decision. Her great fleet disappeared into the mists at one end of the island, her small army hurried out of the country at the other.

By these extraordinary strokes she might well have appeared to the uninstructed eye to divest herself of her defences, to lay herself open to the greatest perils. Long stretches of

her eastern coasts, guarded only by unostentatious flotillas and comparatively untrained territorials, seemed almost to invite attack. Yet both these acts had been carefully conceived in time of peace, and both were in harmony with the highest strategic truth.

The "contemptible little army" reached the western battlefield in time to play what might be judged a decisive part in the first and most critical of all trials of strength. The "grand fleet"—for this name, so honoured by our ancestors, was to be revived on the outbreak of war—from its northern throne has ruled the seas ever since with a completeness of control which even Trafalgar had not secured.

From the first hour of war it was evident that command of the sea and all that followed from it rested with Britain. Everywhere German merchant vessels scurried to port. Everywhere their cruisers hid themselves. Everywhere their commerce raiders were blocked in neutral or enemy harbours.

But at any moment England's naval strength might be challenged—and if at any moment, when surely the earliest moment was probable—and even pending battle, the seas were full of dangers about which no experience existed as a guide or measure. At any moment—and if at any moment, then surely while it might delay the departure of an expeditionary force—a raid or descent might be attempted upon our coasts. Nevertheless the army must go. The French African army also must cross seas not yet cleared. Never mind—the bulk would get there.

And then, from all over the world, the Great Amphibian must draw her children, her resources and her food. Ten thousand keels were carrying on trade and transportation, sailing boldly over every sea, hundreds homeward bound, and hundreds outward bound each day, on 1 per cent. war insurance.

The Australian and the Canadian armies, the Indian divisions for France, the territorial divisions for India, regular divisions, spread garrisons about the world, and a dozen minor enterprises claimed transport and armed convoy. For the enemy's cruisers were still at large and hidden.

Reinforcements and supplies for the army in France flowed in an ever widening stream, in spite of the enemy submarine, growing more daring and more skilful every day. Then, as the allied armies recoiled on Paris, land communications by Havre were threatened.

"Shift the base to St. Nazaire." It was shifted accordingly. "Get ready to shift further south still." It was got ready accordingly. "Better news—victory on the Marne—the tide has turned—shift it back to Havre." Again it was shifted accordingly.

Meanwhile there was not a moment's interruption to the men and supplies pouring out, or the wounded pouring back. And all the time Britain must pen the second greatest naval power in its fortified harbours, guard the island from all attack, or be ready to fight the supreme sea battle of all history at four hours' notice. She must keep on being ready for years.

The Great Amphibian, going ashore, must transform a large part of her body. Armies of millions must be raised—one, two, three, four millions, or more. She never thought of that before, either—not even at the time she thought of armies.

Never mind. Let us become the world's armourer and arsenal. Transform industries, call out men, call in women. Pity to have overlooked it before. Half a year has been lost—or was it a year—or was it more? But her faithful servants on the sea still execute punctiliously the tasks confided to them. Mistakes can be put right, delays can be retrieved, needless suffering can be avoided, loss can be endured. All sacrifices, even those that seem to have been in vain, can be made fruitful.

Slowly but surely the whole force of the nation and Empire and all its dependencies will be organized for war by land and sea; not one scrap will be wilfully neglected. The effort ultimately will reach the potential maximum, both in volume and in quality—unless the war for any reason comes sooner to an end.

J. Pierrepont Morgan

Chief Executive of J. P. Morgan & Co.

PRACTICAL FRIENDS OF THE ALLIES

THE year 1867 was remarkable in many ways, but in none more than in the fact of it being the year of the Canadian Confederation and the birth year of one who was destined, before the lapse of half a century, to play a very important part in the affairs of the British Empire, and consequently of this Dominion. In the year 1867, in the City of New York, was born Mr. J. P. Morgan. He was the son of his father's second wife, who, before marriage, was Miss Frances Tracy. Of his parents a most interesting history could be given, but to do it even slight justice would demand more space than is at our disposal; moreover the whole world is acquainted with the history of his father, the late J. Pierrepont Morgan, his rise, his phenomenal success in the world of finance and all the giant strides he had taken up the stairway of prosperity. His successes corresponded with the proportionate advancement of the American Republic in all the varied fields of commerce, industry, art, science and national life. However, it is not of the father, but of the son, that we desire to write on this occasion.

The present J. Pierrepont Morgan received, as would be expected, a liberal education. This in itself might not have been of any great benefit to the world, were it not that he combined, with the wealth he inherited, very fine mental capabilities, keen foresight, large sympathies, and, above all, a practical method of applying all his advantages to his business as an International Banker.

When John Pierrepont Morgan graduated in 1889, from Harvard he went directly to his father's office in New York, as a member of the staff of Drexel, Morgan & Company—now J. P. Morgan & Company—and, to use a common phrase, "buckled down to work". Needless to say he soon familiarized himself with every detail of the business. He not only had all the aptitude required, but, in addition, he had the personal interests at stake that paved the way to early successes for him. When he had mastered every detail of a most extensive and complicated business, his father sent him to London as head of the British branch of the firm of J. S. Morgan & Co. or Morgan, Grenfell & Co., London. Here he gained an intimate knowledge of the financial and industrial, as well as the social and national interests of Great Britain and the Continent. His father had laid deep and broad foundations; he was not content with the preservation of his father's structure, but applied himself to the elevation of a super-structure in the perfecting of which the young master of finance displayed great energy and ambition.

The father planned, the son executed; the father's range of vision took in the entire American Republic and the shores of Great Britain; the son's vaster range, because of his greater advantages, embraces the whole civilized world. As a result J. P. Morgan was prepared for any crisis in the world's affairs; when least expected, the hour came for the display of

his ability, his practical patriotism and his devotion to the two-fold cause of higher civilization and human liberty, he measured up in full to the requirements of the hour.

August 1914 heard the awful crash of War that reverberated over the civilized world. During two-thirds of a century, Germany had been preparing for this terrific event; France, Russia, Great Britain and other European nations were taken by surprise. The blow came like the proverbial "bolt from the blue". It is needless to tell how the Allies felt keenly the first pinch of necessity for munitions, and supplies—that is history now and every person has read it. All eyes turned

towards America, when Baron Reading and his associates set sail for the United States. The first object of their mission was a visit to J. P. Morgan & Company, the result of which was the raising of a \$500,000,000 loan in a comparatively brief space of time—the largest loan ever floated and the cause of more comment than any other transaction known in the world of finance.

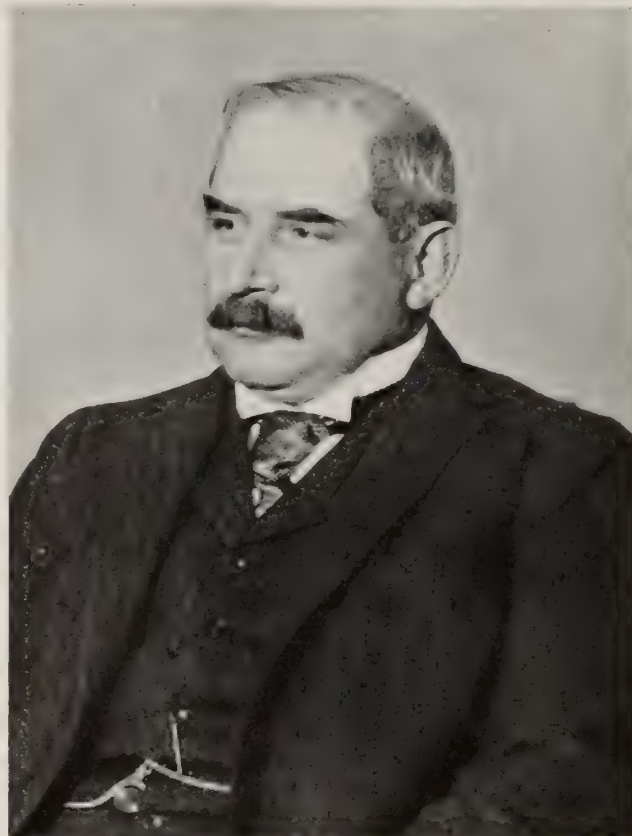
As might be expected, throughout the United States, various organizations that were opposed to the success of the Allies cast every imaginable impediment in the way of Morgan's gigantic scheme. Banks that had numerous depositors in sympathy with the Central Powers refused to subscribe to the issue. The cry went abroad that the issue was unneutral, but the tempest of opposition was skillfully turned aside by the Morgan firm; Mr. J. P. Morgan, himself, had gone to England; his firm was appointed the fiscal agents of Great Britain in America. He, in England, and his highly competent and exceedingly clever associates in America set about placing orders for munitions and supplies and undertook to finance the

great war orders from Britain, France and Russia.

Since the successful manipulation of that great allied loan, Mr. J. P. Morgan has succeeded in securing other loans of \$100,000,000 for France, and \$250,000,000 for Britain, while Sweden and Argentina have come to him for financial aid. All of which operations the American Foreign Securities Company, of which he is a leading director, has carried through with comparative ease.

J. P. Morgan is essentially a banker, and bankers are interested in a wide range of financial and manufacturing operations, from making fuses for high explosive shells to striping costly silks with American dyes, running an express train from Chicago to San Francisco, or shipping rivets to Hong Kong, China.

At the outset of the war, when the Allies were in need of money to supply their armies with munitions for a prolonged struggle, the Morgan firm came to the rescue with their \$500,000,000 loan, and recently they added to their incalculable services, by means of negotiations carried on abroad between J. P. Morgan and H. P. Davidson and the British Treasury officials, whereby arrangements were made for the sale in the United States of another \$300,000,000 loan to the



MR. J. PIERREPONT MORGAN

United Kingdom of Great Britain and Ireland. The terms of the loan will be identical with those of the \$250,000,000 British loan placed in the United States last August and which has since been rapidly absorbed by investors and financial institutions.

No other firm in the United States, or in any other country could have performed such financial feats; and no other man in the world of banking and fiscal affairs could have manipulated successfully such titantic undertakings. Apart from the loans, it was only in the United States that the task of manufacturing such vast amounts of munitions as were required at short order could have been accomplished. It was Morgan who set wheels in motion, and thousands of hands at work, that vast quantities of shells and other munitions of war might be turned out and placed at the service of the Allies in the shortest possible order.

While he was working day and night in this vast enterprise, the other members of his firm, including his own son Junius, were devoting, in New York, all their energies towards successful co-operation in each of his rapidly-conceived and accurately-planned designs.

The services that J. P. Morgan and his firm rendered to the cause of the Allies, and more especially that of Great Britain, and incidentally that of the Canadian Dominion, will never be known. The debt due to them will have to be left to the judgment of the future historian; like their own financial undertakings, it is beyond calculation. At any time the feats they performed might challenge the wonderment of the financial world; but under the circumstances of this war, the importance of them to the Allied nations, to the cause of human liberty and to the future of civilization is beyond the range of measurement and the flights of imagination. Through the firm other friendly bankers, corporations and individuals offered their assistance, but it was the master mind of J. P. Morgan which crystalized all these forces.

It would be highly interesting to write about the private life of this great citizen of the world; but the sole object of this brief paper is to point out, in a necessarily imperfect manner, the immensity of the services he has rendered to the cause of the Allies, the vital importance of his course to Great Britain, and, as a consequence, the deep obligations to him of Canada, as a belligerent portion of the Empire. This reference would not be complete without a word on their princely contributions to all charitable and patriotic causes arising out of the War. Every nation affected has been the recipient of their financial help, and Canada is no stranger to their splendid generosity.

Joffre, as generalissimo of the Allied armies, 's one of the few most conspicuous figures in the world to-day; Kitchener, raising his British army of five million, stood out like a flaming beacon light before the eyes of civilization; Lloyd George, in his untiring efforts and his marvelous resourcefulness, towers high before the gaze of mankind; but behind all these, and behind the Governments of their respective countries, and behind the armies of the Allied peoples, rises the silent wall of financial backing that the hands and brain of J. P. Morgan have constructed.

One word for Canada. After the floating of Morgan's first great loan, regular shipments of gold came to his firm from Ottawa, shipped from London and other British points, assembled at Ottawa and conveyed to J. P. Morgan and Company, who deposited it in the Assay Office. They have been the connecting-link, in matters of finance, between Great Britain and Canada; and Canada will, perhaps, never realize what, in this awful struggle, which has taxed her in men, money and resources to such an incalculable degree, she owes to that practical friend, true patriot, and most effective ally of the British Empire—John Pierrepont Morgan.

Military Equipment Fund

AT the close of the academic year 1915-1916 President Falconer asked Mr. S. Childs, President of the Students' Administrative Council to raise a fund for the equipment of the two University units, *i.e.*, The Overseas Training Company and University Battery 67th C.F.A. This fund was raised as an integral part of the MAGAZINE SUPPLEMENT and at the time of going to press amounts to three thousand two hundred dollars, of which fifteen hundred dollars has been paid over to the commanding officers of the units. The Editorial Board desires to acknowledge with thanks contributions from the following subscribers:

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The International Nickel Company

BY ALEXANDER GRAY

"WHAT man no know is good f'know", is a West Indian precept it took nickel capitalists sorrowful years to appreciate at its full. So dramatically unanimous were the experiences of each and every individual and corporation undertaking profitably to deal with the "Old Nick" ores of the Sudbury district of Ontario, it was no surprise—even six years ago—when one of Canada's most successful railway, banking and industrial directors emphatically declared:

"I would not take a nickel mine for a gift!"

He was right—and he was wrong. Being one of those unscientific pioneers who ventured into nickel mining, along with other Canadians of wealth and business acumen; having met with the same disappointments as those who rushed "in where angels fear to tread"; he acknowledged that "what man no know is good f'know". Nor is it to be wondered at that not one of the enterprises in nickel organized by Canadians who loom large in the commercial history of Canada, survived its infantile paregoric period. They sprouted goose wings instead of eagle wings. Consequently the exploitation of the special metal contained in the Norites of the Sudbury district was delegated to Ohioans—who also soon appreciated that "what man no know is good f'know".

Those "Buckeyes" had more capital at their command than Canadians in those days could muster. They, too, felt the pricking of wings which they fancied would enable them to make altitude records—but initial flights convinced them of their error, if not of their foolhardiness. Adepts in money-making, prescient in promoting great enterprises, possessing mineral properties which were neither "fish, flesh, nor fowl—nor good red herring" to the scientific and commercial world—nickel steel alloys being among the dubious quantities—they spent their money with rather grim determination—they and those with whom they had dealings devoted their overtime to "chewing the cud of sweet and bitter discontent".

They thought they had copper country—it was not recognized that they had nickel with their copper—a complication which mining and metallurgical savants shunned, the economical separation of those metals persisting in being an unsolved problem outside of a very few laboratories; commercially untried, excepting in very rare metallurgical works. Determination of the nickel contents, therefore, was a rude awakening to the principals whom Ritchie introduced to these "Copper" fields, as they were regarded when Howie made his chance discovery in a cutting on the Canadian Pacific Railway, near the site of the Murray Mine, which the Vivians of Swansea—century-old metallurgical experts—tried and abandoned. Prior to that, Ritchie had interested the Ohio capitalists to a countryside of Hastings County, Ontario, iron ore—which tardy investigation demonstrated was too high in sulphur to be economically valuable.

To have him also take over square miles of supposedly "Copper" areas—and then to be execrated by the owners and those to whom trial shipments of the Sudbury ores were made—the Nichols Chemical Company of Long Island, and Colonel R. M. Thompson's Orford Copper Company of Constable Hoek, New Jersey—was a veritable heritage of woe for the credulous financiers, a rude awakening. A century previous, German miners were driven to distraction by "Kupfernickel"—"Old Nick's" copper. The Nichols people, in their dilemma, addressed Colonel Thompson and his technical staff in the most urbane manner, and suavely remarked: "Après vous Alphonse!"

Colonel Thompson—always courtly, responded that his metallurgical works would forego the opportunity to treat the ore, notwithstanding he and Eustis had mined copper ore, containing some nickel, near the village of Orford in Quebec, about 1878. Nickel in those years was worth around \$5.00 a lb. Messrs. Thompson and Eustis had erected a small reverberatory furnace, at Orford, hoping to smelt the ore. They took on double trouble. Their slag was too stiff—the metals would not separate—they confessed failure. Consequently they bought a low grade copper mine at Capelton, Quebec, produced a matte, and shipped the matte to Pennsylvania. Desiring, however, to complete the treatment of the matte, without resort to others, Colonel Thompson concluded to have his own works make copper ingots out of his own Canadian copper. So he located his refinery—the Orford Copper and Sulphur Works—at Constable Hoek, alongside of the Standard Oil refineries and various chemical plants.

There it was that Sudbury District Nickel "Copper" ore became his

Nemesis, and outlined his life work. He leased his Orford Works and went west. Later he returned and made the acquaintance of Ritchie, as the representative of those who were piling up overdrafts and ore at what is now Copper Cliff. Ritchie, with all the exuberance of the Count of Monte Christo and "Colonel Sellers", declared "there's millions in it!" "Copper" ore for centuries of effort existed in the new Canadian fields.

Greatly to his disappointment Colonel Thompson soon discovered there was a "rift in the lute". His chemists could not coax copper out of the clean chalcopyrite they were receiving from Copper Cliff. This was what led him to proffer the exclusive privilege of treating the ores to the Nichols Chemical Company. Yet, when his chemists informed him there was nickel in the ores, Colonel Thompson determined to master their metallurgy.

It was easier thought of than done. What was to be his reward, was beyond his ken. Nickel steel alloys were among the things dreamed of. Copper, zinc and nickel alloys, known as "packfong", were vaguely reckoned as among the lost arts, since about 335 B.C.—whereas they now are identical with those used in the subsidiary coinage of the United States and elsewhere. How Colonel Thompson triumphed and won his initial victory that gave a status to Canadian nickel was thus related by the writer:

"Surveying the international situation, Colonel Thompson ascertained that the Vivians, in Wales, were the only nickel refiners in England. Beyond that his inquiry could not penetrate. There was

nothing in the patent records, and the text books were silent. All the Colonel could find out was what anyone in the gallery could see. Cargoes duly arrived at Swansea. Copper-nickel ores were discharged and taken to the Vivian works. Nickel and copper metals came out of the works and were shipped to metal dealers. It was hardly a satisfaction to ascertain by chance that local acid works sold to the Vivians a lot of what they called 'Sallie Nixon.' However, Colonel Thompson consulted a dealer in chemicals, whom he directed to send him some 'Sallie

Nixon.' The dealer in turn explained that 'Sallie Nixon' was crude sodium sulphate, in reality Sal Enixum—washed out salt—it being the salt that is washed out of the retorts in making hydro-chloric acid.

"Several barrels of 'Sallie Nixon' shortly reached New York and were duly delivered to Colonel Thompson, at the Orford Works at Constable Hoek. The Orford Company began to smelt matte in crucibles. It is not to be inferred from this that the Vivian secret was thus surreptitiously obtained. Far from it. The Orford management found that if the matte and the sodium sulphate were melted together, there was 'nothing doing'. Coke in the mixture was tried, and it was observed that when the crucible cooled and was broken, two substances were in evidence, clearly defined, so the top portion could be broken off. Analysis showed that the bottom was higher in nickel content, and lower in copper content, than the top. Nor did an increased amount of 'Sallie Nixon' help the separation. Finally Mr. Gibb, one of the chemists engaged, suggested the re-smelting of the bottom. Upon this being done it was noted that the second bottom had less copper in it than the first bottom. This procedure was repeated. After nine smeltings they succeeded in obtaining a bottom practically free from copper. Some of this bottom was roasted, and found to consist mainly of iron oxide and nickel oxide. When means were devised for the elimination of the iron, the Orford process, so-called, was almost completed".

Colonel Thompson "almost" had the process—the Copper Cliff capitalists and mining scientists had the ore—and nightmare owing to the absence of markets for nickel. Debt, doubts, and no likelihood of dividends; capital outlays and no income, justified the unconscious wisdom of Sir William Van Horne, Sir George Stephens, and other Montrealeers, when they refrained from investing heavily in the Canadian "Copper" fields in 1886.

Furnaces were erected at Copper Cliff. Since Canada did not have a process, nor a refinery, the Canadian Copper Company, organized with an Ohio charter, under the advice of the late Dr. Peters of Harvard, in order to obviate the expense of shipping the crude ore to Constable Hoek, decided to reduce the ore to a matte. Colonel Thompson and his metallurgists were perfecting their process, and, as the Orford Works was the only refuge, the Canadian Copper Company undertook to make a matte, thereby effecting a material saving in freights.



General View of the Canadian Copper Co.'s Works, Copper Cliff

The Orford plant was "almost" ready to recover nickel in marketable quantities, but what to do with the nickel was as disconcerting as the bank overdrafts. Ritchie, therefore, thought of Europe, recalling that John Gamgee had evolved a tough nickel iron alloy from the metallic contents of a Smithsonian Institute meteorite, reinforced by a small quantity of nickel he procured from Joseph Wharton, of Camden, New Jersey. He wrote to Krupp and urged the superior advantages of nickel-steel. Other master steel-makers were appealed to. Not to be baulked, Ritchie induced Sir Charles Tupper to join him, through the Government at Ottawa; and the Government at Washington appointed Lieut. B. H. Buckingham to investigate the subject of nickel-steel in its relationship to fighting-ship construction.

Accordingly, Messrs. Tupper, Buckingham and Ritchie visited British and Continental Steel plants, and created more or less interest in the matter. One object of their mission was achieved when James Riley, a Glasgow chemist, in 1889, read a paper before the Sheffield Iron and Steel Institute, on "Nickel-Steel Alloys". That paper subsequently was presented to General Benjamin F. Tracy, Secretary of the Navy in President Harrison's Cabinet—a veteran of the American Civil War. So convinced was he that he ordered of Creusot, an armour-plate of nickel steel; and of Cammel of Sheffield, a plate of compound steel, such as was then used by the British Admiralty in their naval construction. Those, and other plates, were tested, and the nickel-steel plate was so much the superior that Congress was induced to immediately make an appropriation for the purchase of nickel. Without that recognition of Canada's special metal the Nickel Industry might have languished—and many now discarded fighting ships would be regarded as the "last word" in efficiency. Further more, modern navies would not have the gun power they possess. Let General Tracy tell his personal tale:

"In March 1889, the United States Navy was still without armour, although a contract made two years before provided for a future supply. This armour was of simple steel, and when you come to discuss the topic of steel armour, that's where you get at the heart of all naval advance.

"I was privileged to be the author of the modern navies of the world, as I introduced Harveyized, or Nickel Steel, to the notice of the governments of the world. The moment this make of steel was adopted, everything on a keel in the mightiest navy of Great Britain became, as it were, obsolete. Millions and millions of money that had been put into men-of-war were so many millions wasted. From the advent of this sort of steel, no nation could think of building any warship without using the new composition for armour.

"During 1889 Commander Folger, in charge of the Washington gun foundry, called my attention to the recently patented Harvey process used for hardening the surface of tool steel. I became convinced that there was a possibility that this process might be employed with success in the making of armour-plate. So a furnace was built at the Washington Navy Yard for applying the Harvey method of treatment.

"In the meantime the possibilities of the use of nickel steel were being discussed. News of certain activity in the limited nickel market in Europe led me to the belief that foreign governments intended experimenting with this combination, with a view to making use of it for warship armour. This determined me to have a test made of the three principal kinds of armour-plate then known, in order that I might know what would be the latest and most effective for our use. There never had been an armour-plate test made in the United States. We had imported armour for years and had always taken for granted what the foreign makers had said regarding the result of tests.

"I had the trial of the plate made at Annapolis, in September, 1890. There was the English, or compound armour-plate of Sheffield. There was the all-steel armour of Le Creusot. There was the plate of nickel steel.

"First we used 6-inch guns. The compound armour was smashed. There was a little doubt as to the exact differences in results with the other two kinds.

"So we used 8-inch guns in order that the plates, or the worst plate of the lot, should be tested to destruction.

"The result of that test changed the naval history of the world. The shots perforated and shattered the English compound plate. The

all-steel plate was broken into four separate pieces, holding together only by the serrated edges of the ruptured material. But the nickel steel remained absolutely uncracked, the apertures made in it being plugged by the projectiles. The integrity of the plate as the covering of a ship's side was practically as perfect at the close of the trial as if no shot had been fired.

"Following this test it was recognized that the Harvey process for hardening the surface of tool steel undoubtedly would have a peculiar value when used in combination with the newly-developed qualities of nickel steel. So armour made of high carbon nickel Harvey plate was made, and on the proving ground of the Bethlehem Iron Company, July 30th, 1892, five Holtzer forged-steel shells, weighing 250 pounds each, with a striking velocity of 1,700 feet a second, and each with an energy of 5,000 tons to the square foot, were fired at the plate at a distance of thirty yards. All five of the projectiles were smashed upon the surface of the plate, and these new plates were manufactured in America. They were adopted at once for the armour of our growing navy. The British Government tried them out immediately, and likewise adopted them."

That was years after the organization of the Canadian Copper Company—very lean years. Harrowing details need not enter into this narrative. Prior to the Annapolis demonstration, Copper Cliff smelting practice had been progressing. Furnaces multiplied, it being understood that the extent of the ore bodies and all the expenditures upon experiments and plants, called for a large output. Colonel Thompson's Orford Works were busied with continuous separations, but demand for the metal was woefully lacking.

The Canadian Copper Company, with the Peters furnaces, was keen to supply all-comers. Sales of matte were spasmodic, and there were piles

of it in the yards at the Orford Works. Competition was threatened on the part of the Vivians, who had been working a nickel mine in Norway, and by others, among them the Dominion Mineral Company, the Drury Nickel Company, the Algoma Nickel Company, the Emmens Metal Company, the Hoepfner Refining Company, the Great Lakes Copper Company, and the Lake Superior Power Company. Contrary to the erroneous impression prevailing, the Canadian Copper Company held no monopoly of nickel-bearing areas. There always has been a free field for competition.

More nickel than markets and processes accentuated the troubles of the Canadian Copper Company. Between \$400,000 and \$500,000 was spent in experimentation, in the hope of securing an economical all-Canadian process.

The Orford Company had the advantage over all processes tested. While the Orford plant is now a part of the parent nickel corporation's organization, persistent attempts to improve its practice so as to permit of a Canadian refinery, were shown to be somewhat wasteful, until the patriotic appeal of the Ottawa Government, for an all-British product was acceded to.

That the establishment of an all-Canadian refinery at Port Colborne, at an estimated cost of \$5,500,000 was not to be lightly entertained, may be more readily appreciated when it is stated that the Orford Works have been maintained at New Jersey because of their proximity to the Standard Oil Refineries, and chemical works. For years the responsible executives have admitted it would have been an ideal condition if the smelting and refining could be conducted at a single locality—at the producing mines, thereby dispensing with the serious disadvantages in duplicating general overhead expense, which inevitably obtains where operations are divided. Unfortunately, until nickel markets were less precarious and general conditions were sufficiently economical, the cost of fuel and supplies at the producing mines virtually prohibited the ultimate refining at the mines by any process considered to be economically feasible, in the estimation of the International Nickel Company metallurgical engineers and management.

New Caledonian and Norwegian ores have been factors in the competition for the world's markets. The effect of the conservation of the economies, and the recognized importance of late of the Canadian mines, is indicated by the increased proportion of the world's market supplied by those mines. Instead of the Canadian sources supplying 35 per cent. of the market, as in 1902, when the International Nickel Company was organized to meet the enlarging situation and command the trade, all the trade possible, the Canadian production represents 70 per cent. of the



Interior of Blast Furnace Building and Smelter

total market—the normal market. This 70 per cent reflects an increase of nearly 300 per cent. in less than fifteen years, whereas the New Caledonia output remained nearly stationary, its percentage of the world's supply decreasing in ratio.

Contrary to the opinion of those who fail to comprehend the intricacies of the Nickel Industry as a whole, constant efforts have been made to reverse the condition created, and again throw the bulk of production to New Caledonia, the simpler ores of which were handicapped by their remoteness from markets and essential supplies, and more so by the American tariff, which permitted Canadian matte to be exported as unrefined metal, and taxed the refined product. The objective, until the outbreak of war, was to cater to the greatest markets, and produce nickel at the lowest possible cost. Onerous costs would have retarded expansion throughout diversified industries, where nickel was being exploited. As against previous demands for the refining of Canadian nickel in Canada, there was the insuperable objection that the Orford, New Jersey, refinery has been enabled to pipe millions of gallons annually of oil low in sulphur content into the plant. In a recent year it took 5,000,000 gallons of such oil to meet the requirements of the Orford plant. Besides, it is to be realized that about six tons of miscellaneous supplies are used in the refining process to one ton of matte as it is shipped from Copper Cliff. About twelve tons of miscellaneous supplies to each ton of nickel produced has been found to be the average. Practically all of these supplies have been unobtainable in Canada.

Before a Canadian refinery was conceded in response to a patriotic demand, irrespective of the extra cost it will entail, the ore has been smelted at Copper Cliff by successive stages into a matte, which contained approximately 55 per cent. nickel, 25 per cent. copper, and 20 per cent. sulphur. The situation has been analogous to that obtaining in the refining of the enormous quantity of copper produced in the United States. American copper mines are located in Montana, Utah, Michigan, Nevada and elsewhere. Before the war the electrolytic refining capacity of the United States was 1,768,000,000 lbs. Of this huge total over 1,600,000,000 lbs. capacity was located at or close to the Atlantic seaboard. Obviously this is because the refining of copper is done where the cost is lowest. Apart from these refineries, others were located at Buffalo, Tacoma, and Great Falls, away from the mines. However, since the propriety and urgency of the matter dictated the location of a nickel refinery at Port Colborne, past economical reasons are set aside. Whatever may be the increased cost of the production of a supply sufficient for the needs of the British Empire, it will no longer intervene. Latter day solicitude at Westminster and Ottawa for the nickel industry as a whole, an industry which Sir Alfred Mond a month or two ago declared, had never obtained much consideration from the Imperial Government, serves to point out the default on the part of those born or resident within the Empire who were faint-hearted or incapable of doing what American pioneers were compelled to do in order to win victory for the victims of rash investments in rebellious iron ores and these controversial nickel-copper areas, as yet affording opportunity for numerous enterprise based upon other than speculation.

Present prosperity does not brood upon past failure. Payne, Burke, and Cornell, whose personal funds and securities were provided or pledged in furtherance of the exploitation of the Canadian nickel areas, long since have been gathered by the grim reaper. Their iron country, in Ontario, lies fallow. Metallurgical scientists have not brought those ores, high in sulphur content, into profitable account. Payne, in particular, put his wealth and influence behind the Canadian Copper Company; yet General Tracy did not explain that after Riley had written on nickel steel alloys, after the superiority of nickel steel armour plate had been demonstrated at Annapolis, Andrew Carnegie—cannie Scot that he was—warily declined to erect a mill at Pittsburg, at which to roll the new plate—unless he was guaranteed enough business to write off the risk.

It has become a habit for those who envy the status of the predominant partner in the Nickel Industry—who deplore its conduct under "alien" auspices—to denounce the Imperial and Ottawa Governments of the day for having allowed "foreign" capitalists to control Canadian nickel. Those so thinking, at least are hindsighted. There is more nickel country unabsorbed than is held by the pioneers—who were so deep in the mire that their millions alone extricated them, the British and American Naval Boards coming to their rescue, nickel and its alloys later on being accepted by ornamental and useful artificers as incorrosives.

Having relegated all other steel plates to the scrap heap, foreseeing that nickel must have markets in diversified trades, realizing that Admiralty activities were apt to be governed by international distempers, a greater organization, backed by more capital than ever, and directed by steel masters like Carnegie and Schwab, was conceived. Apart from the casual attempts of British and continental metallurgical savants to make nickel

steel, Ontario nickel met scant consideration. Whittaker Wright—the arch-adventurer who ruined Dufferin—did interest British capital in New Caledonia nickel lands; but those lands eventually reverted to the Americans who were ploughing "the lonely furrow" around Copper Cliff. A just view of events attending the inception of the Ontario Nickel Industry, however deplorable was the manifest default on the part of British steel makers, concedes the "spoils" to "the victors".

Combined capital-acceptance of the inevitable, at the moment—it being felt that the Orford process of Col. Thompson was indispensable to the purposes of the producers of nickel matte at Copper Cliff—brought about a merger of the Canadian Copper Company with the Orford Copper Company, in April, 1902, fifteen years after the creation of the Canadian Copper Company—more debits than dividends having accumulated meanwhile. The Anglo-American iron areas of Hastings County, Ontario were thrown in as so much "dead weight". This occurred eleven years after the Annapolis test. In the interim the plant at Copper Cliff had experienced endless vicissitudes, a measure of success; the East Smelter had been doing wonders, for those days, and the West Smelter was in operation. As a recognition of Canadian sentiment, and for the preservation of the amenities, the Orford Copper Company also, in 1900, had erected a refinery at Copper Cliff, known as the Ontario Smelting Works, which took the furnace matte of the Canadian Copper Company's Smelters, refined it up to 75% of metals, and then shipped this refined matte to the Orford Works at Constable Hoek. But the Canadian Copper Company, and the Orford Copper Company, were things apart, until 1901, when Colonel R. M. Thompson, E. C. Converse, Capt. J. R. Delamer, Charles M. Schwab, and others, signed the contract for the merger; the International Nickel Company coming into existence the following year, with a capital of \$24,000,000, a bond issue of \$12,000,000, also being authorized. Included in the merger was the American Nickel, the Whittaker Wright Nickel Corporation of New Caledonia, and the Societe Miniere Caledonienne—the various companies, including the Canadian Copper Company and the Anglo-American Iron and Orford concerns, having combined share issues of \$10,000,000.

The promoters of the International Nickel Company issued \$10,300,000 in bonds and \$18,000,000 in preferred and common stock. It took the Canadian Copper Company from 1885 to 1894 to feel at liberty to pay 8%, at the rate of 1% a year; but International Company bondholders and preferred holders have never regretted their investment. The two and three-tenths per cent. distributed per year by the Canadian Copper Company, covering the initial probationary ten years, is dwarfed by the profits shared by those

whose faith, efficiency and nerve induced them to retain International Company securities. Common stockholders were handsomely rewarded for their patience. They were on the waiting list until 1910; but bonus shares, rights, splitting of their shares, and dividends of late, leave no heartburnings. Earnings have advanced from \$1,118,417, in 1903, the year following the incorporation of the International Nickel Company as the holding company, to \$14,340,966 for the year ended March 31, 1916, this being the record:

Years.	Total Income.	Net Income.	Earnings On Common.	Year's Surplus.
1916	\$14,340,966	\$13,470,106	26.80	\$1,781,720
1915	7,230,760	6,713,387	13.31	309,377
1914	6,566,787	6,128,975	11.1	454,759
1913	6,929,106	6,386,799	*11.7	994,501
1912	5,088,965	4,866,412	26.3	903,789
1911	5,256,938	5,028,874	27.9	2,432,074
1910	3,348,681	3,144,734	17.2	1,044,805
1909	2,162,693	2,023,301	5.3	470,671
1908	2,434,952	2,285,369	8.9	790,000
1907	2,853,649	2,689,463	14.2	1,254,769
1906	2,104,739	2,005,531	8.4	754,760
1905	1,434,104	1,171,356	†7.4	668,093
1904	1,103,341	854,039	†3.8	341,102
1903	1,118,417	1,009,392	†6.3	559,148

*In 1913 the Common Stock was increased to \$38,031,500, issued. In March last the issued Common Stock was \$41,834,600, all of the bonds having been retired in 1913. The Preferred Issue has continued stationary at \$8,912,600, and there are no fixed charges.

†This applies to the Earnings on the Preferred in 1903, 1904, 1905.

Luminous as those figures are in the light of preceding paroxysms, the "proof of the pudding" is contained in the increased bonuses, advances in the market valuation of the shares, and in the dividend totals to the end of the last fiscal year:

Total Paid and Declared on the Preferred Stock... \$5,614,814
Total Paid and Declared on the Common Stock... 27,138,186



The Company's well-equipped Hospital

Obviously these are fables founded on fact. The International Nickel Company never owned more than six per cent. of the known nickel lands of the Sudbury District,—good, bad, or indifferent nickel lands, it is true. That the ugly industrial duckling became a swan, is not an offense, however essential it is that the destination of the nickel in war-time be within the absolute control of the Government. Whether the International Company's ore reserves be 55,000,000 tons or more, is an added commendation of the men who wrought out the salvation of the Nickel Industry.

They are not philanthropists, but their annual wage bill mounts into the millions; their plants have been extended; their protection and housing of employes; their participation in war loans and patriotic funds, leave no room for cavil. Strict adherence to correct business principles; writings off against plants and "exhaustion" of the ore reserves; regard for the creature comforts of employes, all these characterize the International Nickel enterprise under the direction of Monell, Converse, Corey, and their confreres, as the greatest of its kind.

Because of the success attending the operations of the International and the Mond Companies, the Nickel Industry, since the incorporation of the International Company, has paid between \$24,000,000, and \$25,000,000 in wages to Canadian employes, not to speak of corresponding outlays on plants and equipment, railway freights and supplies. About 4,000 persons are employed by the industry as a whole, and many of these have been privileged to become shareholders by paying in instalments for their stock. All told some 8,500,000 tons of ore have been smelted by operating companies since the formation of the International Company. In 1916 the nickel mines of Ontario will doubtless produce 43,000 tons of nickel in matte compared with the 5,945 tons which the province reported for 1902, the natal year of the International Nickel Company.

"Growing pains" no longer disturb the serenity of the Nickel Industry; but the most athletic humans and vigorous industries have been seriously affected by restraints which preclude their "running to form". After the war, the Nickel Industry will need all the momentum it can muster, and the co-operation of all who seek expansion throughout our mineral industries. Undoubtedly Canada will do its own refining in so far as the economies and international politics will permit. Broad-minded Americans have no misgivings on this point. A recent issue of *The Wall Street Journal*, discussing "Steel and Foreign Alloys", very frankly admitted:

"America is absolutely dependent upon foreign countries for its steel industry. It is a curious fact that this country, so amply provided with the principal necessities of the industry—ore, coal and flux minerals—lacks most of the other vital ingredients of steel. . . . In the other alloys we are little better off. Nickel ore, an essential in the manufacture of armour and rifle-barrels, is mined in the Sudbury field of Canada, while the other source of supply, New Caledonia, is also a British possession (it is French). Ferro-silicon also comes largely from Canada."

The foregoing serves to illustrate the interdependence of Canada and the United States. Canadian Nickel requires the broadest markets—those of the United States. American materials, owing to the central situation of the nickel fields, are necessary to the smelting and refining of international nickel, until other and more economical processes are employed. Both business science and patriotic sentiment have to be in unison, and that is why off-hand censure of the responsible chiefs of the International Nickel Company is a discouragement where commendation is due.

The request that I write of the International Nickel Company and its subsidiary the Canadian Copper Company, however courteously intended, entails a "war risk" which the average hero would avoid, so controversial is the subject, and so involved is it in misunderstandings. Tension inseparable from war-time conditions, when the breaking strain is approached in most human affairs, deterred those of us who devoted more or less effort to the study of the internal and external relationships of the greatest factor

in the nickel world, from participating in public discussions enveloped in a singular admixture of patriotic fervour and perverse insularity. Over-zeal having prejudiced much of the argument in behalf of the all-Canadian treatment of Canadian nickel-copper ores; misrepresentation having confused the real issues involved in the desire for perpetual supervision of the export of nickel, whether in the matte or in the form of metal, only the conditions under which this review is sought and undertaken, prompt my compliance with the suggestion that I contribute a story on the evolution of the Nickel Industry, with special reference to the part played by the

International Nickel Company. Because this company has become a "pet aversion"; and owing to the thoroughness with which the Central European enemy stored nickel for armament and munitions—practically all of the pre-war nickel having been procured from Canadian sources—the tendency is to bestow indiscriminating blame upon those who had something to sell, altogether unmindful of the remote possibility of a ruthless conflict, which the outstanding figure in the Imperial Govern-

ment, the Right Honourable the Minister for War, considered to be unthinkable. While Lloyd George, Lord Haldane, Lord Avebury, and their contemporaries were contending for a rapprochement with Germany and Austria designed to promote another entente cordiale, the counterpart of that devised by His Majesty, the late King Edward, Canadian nickel, asbestos, and iron ore in quantities, were going to the enemy. Certain Krupp steel products commanded Canadian markets to the exclusion of all others. Krupp procured nickel. Commerce, the comities as between nations, fostered the exchange of commodities, and it was not until Berlin and Vienna outlawed themselves and outraged humanity that there were misgivings toward the International Nickel Company.

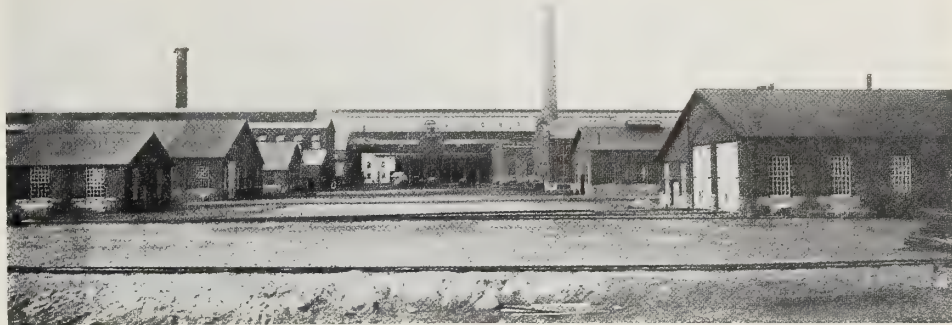
It was immaterial that Germany repeatedly sought to secure Canadian nickel areas, so as to be independent of the International Corporation. To have nickel derived from Canadian ores effectively used in enemy ships, guns and ammunition, served to inflame sentiment, regardless of the antecedent conditions. Sequentially there is vehement demand for

absolute control of nickel exports. The contention is, that the International Nickel Company, being "alien" owned, must be controlled, censored, and compelled to complete its refining process within the borders of Canada, else the metal will be diverted to enemy purposes.

Incidentally it was reiterated that the Krupps dominated the International Nickel Company through a trustee. Were this true, outcry would have been imperative. To have ample supplies of Canadian nickel refined in Canada and the output regulated while the war is on, was not feasible, in the circum-

stances, other than with the co-operation of International Company Executives. That co-operation was forthcoming before the prejudicial agitation began against the International Nickel Company. How the nickel output, in so far as the International Company had to do with it, came within the absolute control of the Dominion, and Imperial Governments, is for Ottawa or Westminster to divulge. Hardly had the Declaration of War been heralded when a peremptory order was issued that no nickel whatsoever be sold. This was done upon the summary initiative of the President of the International Company. The order was patriotically precautionary, general in its application, until there was clearer insight into the world-wide situation. Krupp; the most influential of the American hyphenates were ignored. Never having been identified with the International Nickel Company, and since Germany and Austria combined, owned less than 500 International Nickel shares out of a total of 1,673,384 Common, and 89,126 Preferred, issued, it was not incumbent upon the responsible officials to consult those least concerned.

An acute international crisis; quick discernment of the delicacy of their position; recognition of the priority due the Imperial Government, as well as acknowledgement of obligations to the Dominion Government, led to



Copper Cliff Machine Shops, Engine House and Warehouse



View of open pit at Creighton Mine, Copper Cliff

a complete embargo upon nickel being imposed by the International Nickel Company. History will prove this, despite present misconceptions.

Arrangements were elaborated by the Dominion Government whereby nickel could not reach the enemy. The ultimate destination of all nickel sold had to be disclosed to British Consular officials. Individuals were excluded from the market for nickel. There was perfect accord between the Allies and the International Company. If Canada could not be provided with a nickel refinery instant, no nickel was accessible to the enemy. So close was the control that a small quantity of nickel secreted in New York could not be removed until the Deutschland took it by the submarine route. Ottawa and Westminster were aware of that nickel. Secret Service men kept vigil over it for months. The incident of the Deutschland's nickel cargo rather commends the International Company, whereas it was seized upon as an argument why none of this metal hereafter shall be exported—war or no war—excepting with the certificate of an authorized official. Having in view the necessity of conforming to every Allied safeguard, Canada's unique natural resource being in the nature of very precious "emergency rations" for the Allied Admiralties and Armies, the judicial-minded historian will bear testimony to the Chiefs of the Nickel Industry who rather welcomed the decree forbidding exports of that metal without a license.

So much by way of running commentary upon the attitude of the International Nickel Company throughout the past tragic twenty-six months. That the corporation is prospering is attributable to the magnitude of Allied requirements, and not because of advances in the price of the metal. Concurrently with the decision to abide by any and all regulations imposed by the Dominion and Imperial Governments, it was decided that advantage should not be taken of the War to exact other than pre-War prices for the metal. Every other metal and chemical has brought extraordinary profits to producers. Whatever added profit accrued to the International Nickel Company from the advance in the price of copper, was governed by the law of supply and demand. Although selfish interest dictated better prices for nickel, owing to more onerous operating costs, contracts with the Allies were made on normal terms,

the only excess being due to War Insurance and War Sea Freights. Capital expenditure incurred in plant enlargements, were not figured into the selling price of nickel. In no other instance was this policy pursued, and yet the profits on the turnover of the combined metals contained in the International Company's ores, have established that corporation in a supremacy from which it cannot easily be dislodged. Its proved ore reserves will suffice for maximum operations at least for half a century; its cash surplus; its hydro-electric power, smelters and refineries; its organization and outstanding contracts, the efficiency maintained throughout every department: the absence of brass bands about its continuous performances, make the International Nickel Company powerful in its sphere.

To its competitors, all patriotic Canadians may well give a hearty hand-clasp, and seriously remark: "Go thou and do likewise"—without bonus or special privilege—which the International Company never had and never asked. There is nickel a' plenty in the Sudbury areas—low grade ores with which to busy the centuries—but only one Creighton Mine. The danger is that a surfeit of patriotism of a kind may promote deficits and discredit, such as were visited upon the equally unique asbestos areas of Quebec, endowed with spinning fibers par excellent; but victimized by promoters whose greed precipitated reorganizations and liquidations, and left it to more conscientious, competent Canadians to earn fixed charges on dewatered capitalizations.

It rests with those who make outcry against existing conditions in the Ontario Nickel fields, to prevent a recurrence of what happened to the Quebec Asbestos Industry, and to promote wholesome competition. The International and Mond Nickel Companies have introduced nickel so extensively into armaments and the industrial arts, other nickel producers should find it easier to market the metal. In so holding, it is to be reiterated that punitive measures directed at any of the producing units among the nickel companies, eventually will affect all.

Misfortunes can come in platoons, and the desirability of unity in furthering the nickel industry is my warrant for quoting another Jamaican proverb: "Rain neber fall a' one man door".

The Garvin Machine Company

THE business now conducted by this Company at Spring and Varick Streets, N.Y., was established in 1865, and was incorporated in 1889. Its beginning was modest; its growth and success most flattering.

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In seeking for means to reduce costs and increase production our No. 1 Duplex Slotting Machine offers large and satisfactory results. The capacity of the machine is extensive, milling slots in work up to 4" diameter, in steel or other material. Drift slots in spindles, tool post slot elongated holes, keyways, slots in castings, tools, etc., mortice cuts, open fork ends, cuts in both ends of a piece to be in line, etc., etc., can all be machined

with speed and accuracy without skilled attention; and working from both sides at once, the work is done in one-half the usual time. The work table is moved back and forth at uniform speed by cam and adjustable lever.

Cone pulley and change gears provide changes of feed to suit different conditions, short slots being reciprocated quickly and longer slots more slowly. The cam has a large-sized groove and hardened roller, and is

driven by worm gear, and both cam and driving gears are well protected. The spindle heads are designed for high speed. The spindles are tapered at both ends and run in solid bronze boxes, provided with adjustment for wear and taking thrust on hardened step.

Taper gibs are provided for the headstocks and work slide. The heads are fed into cut automatically and simultaneously by right and left-hand quick pitch screw, controlled by ratchet wheel.

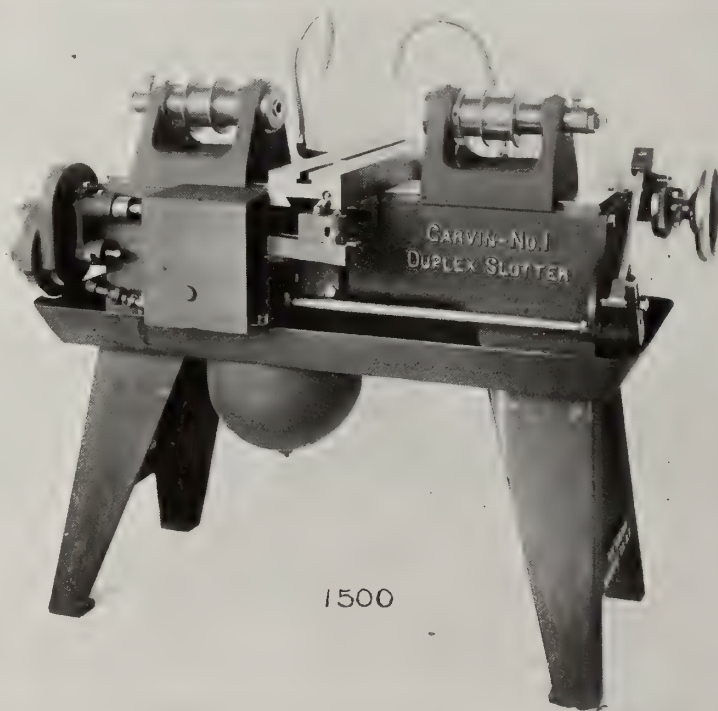
The feed by pawl and ratchet is adjustable, and can be set to automatically lift out and stop feeding when the required depth of cut is reached. This assures absolute uniformity of product without dependence on the operator. Feeding takes place at each end of the stroke.

Each head is independently adjustable along the bed to suit different lengths and conditions of cutters,

position of the work on the table, etc. The headstocks are moved in and out simultaneously by hand wheel, and to any distance without interfering with the setting of the machine.

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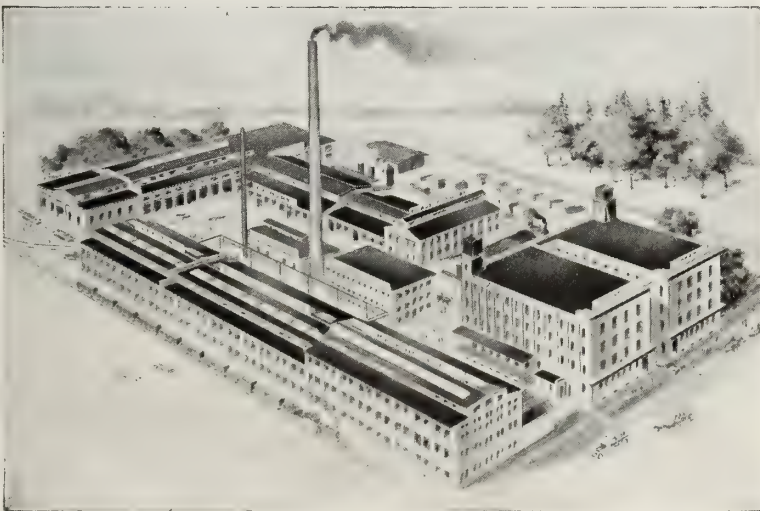
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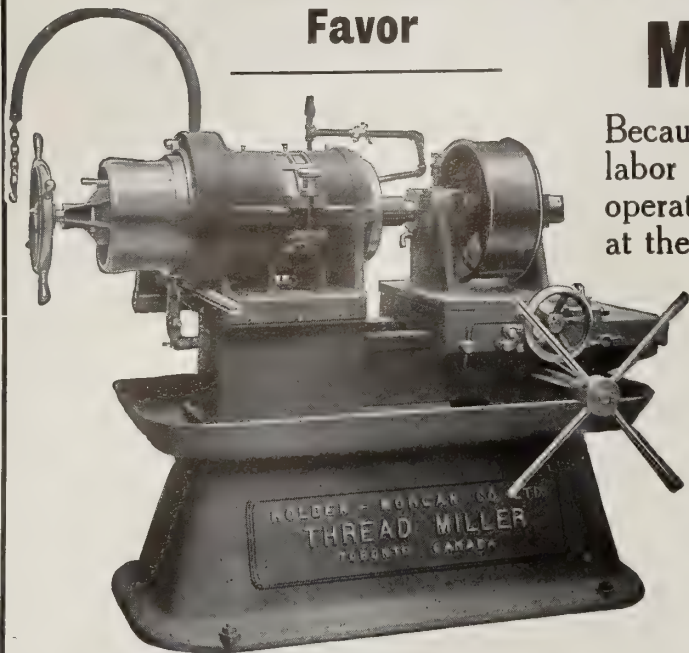
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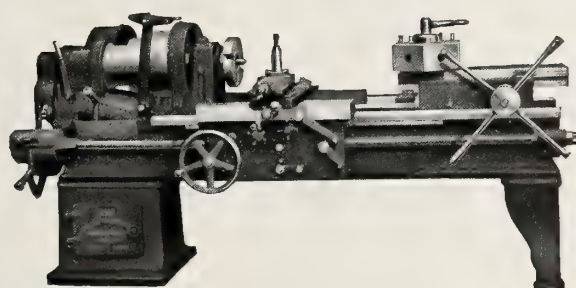
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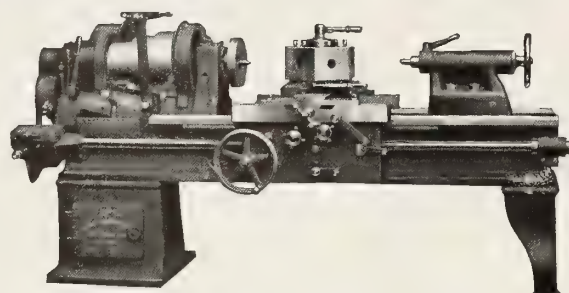
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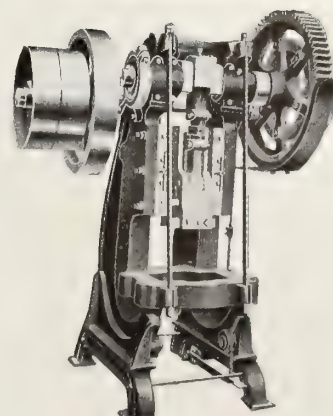
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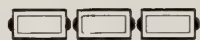
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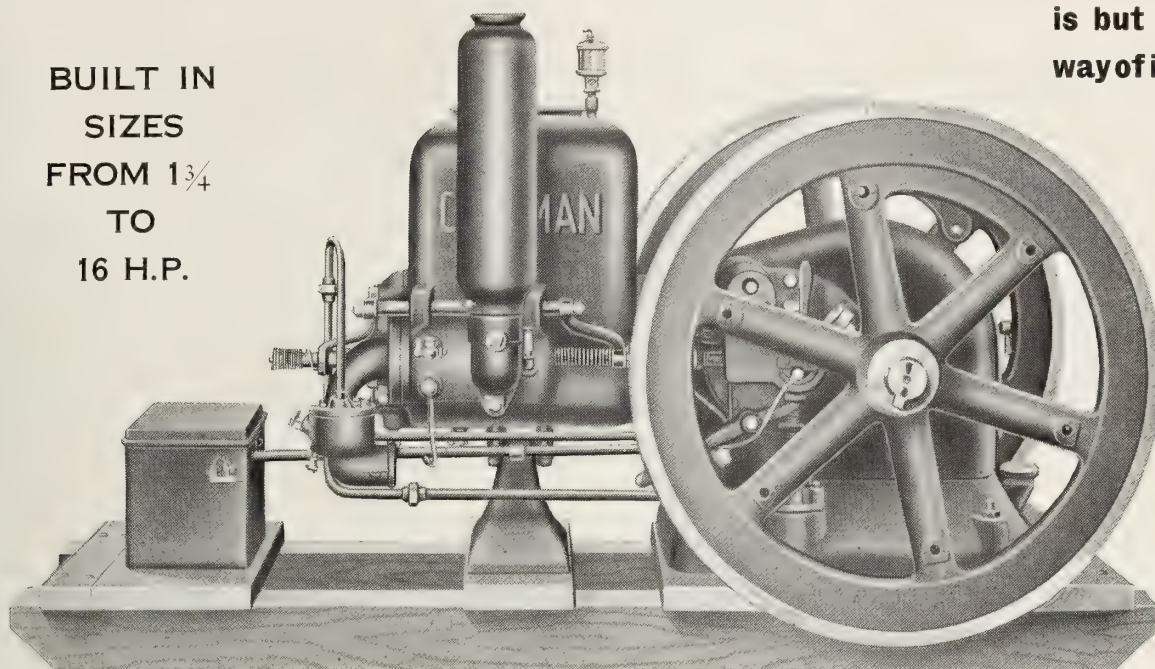


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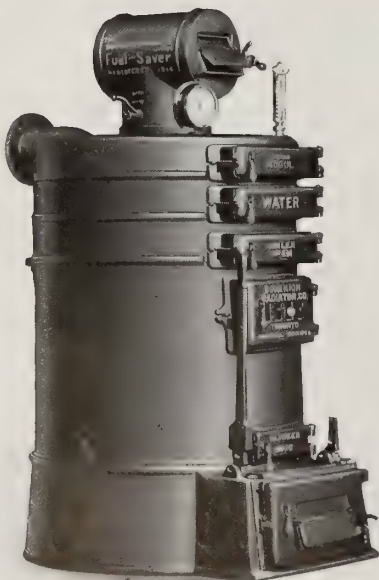
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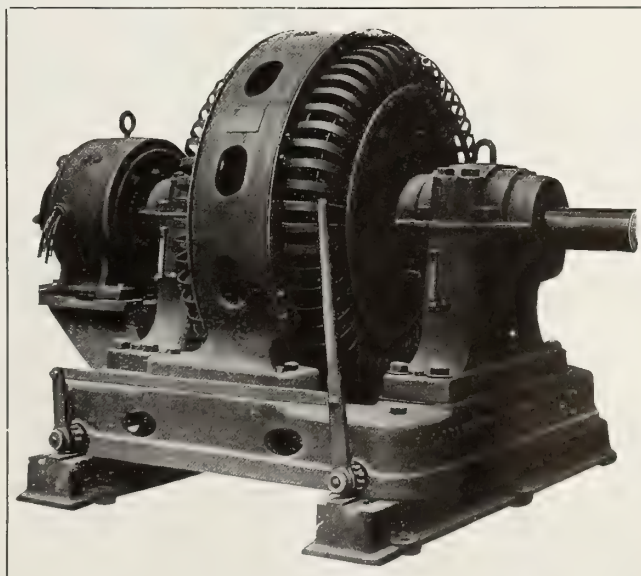
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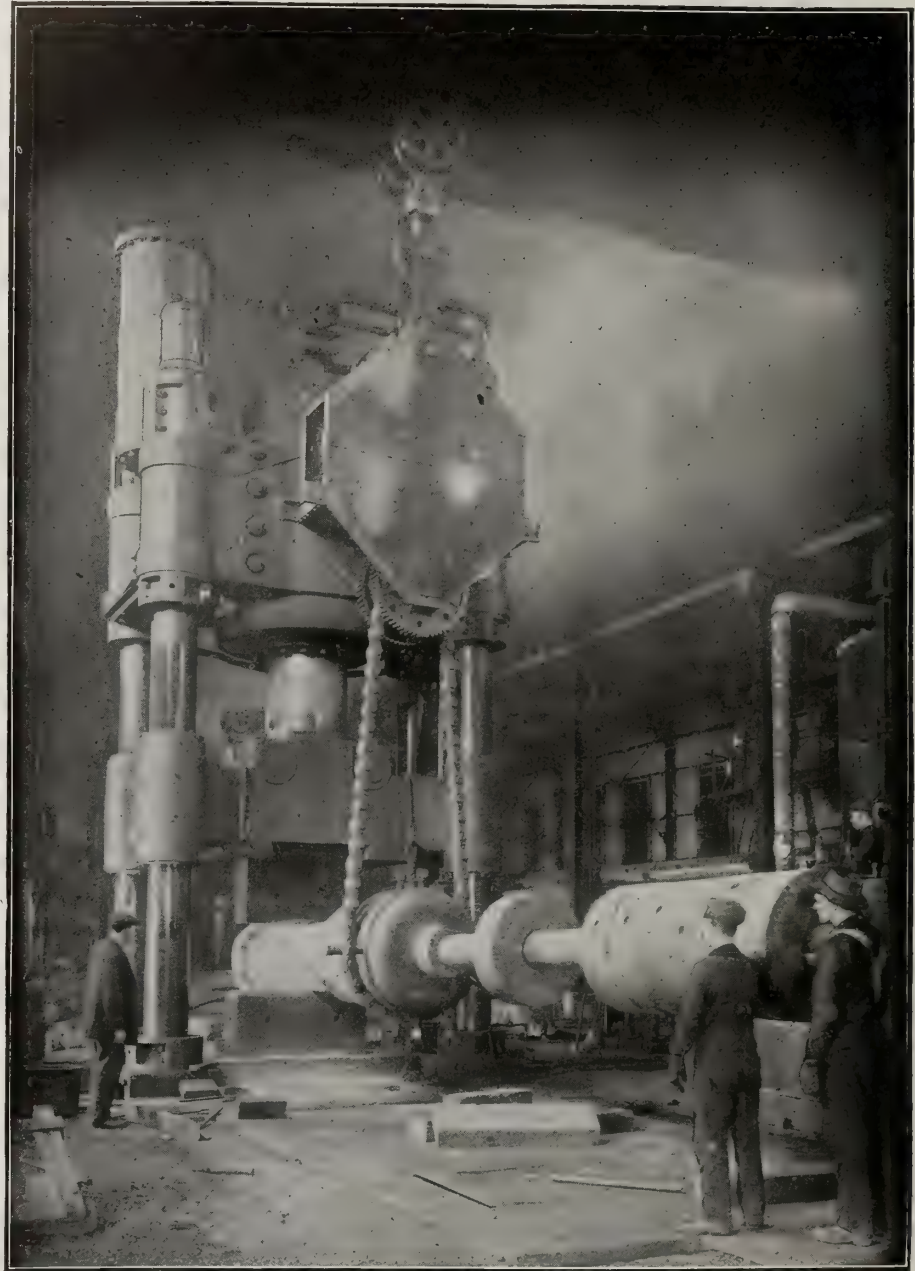
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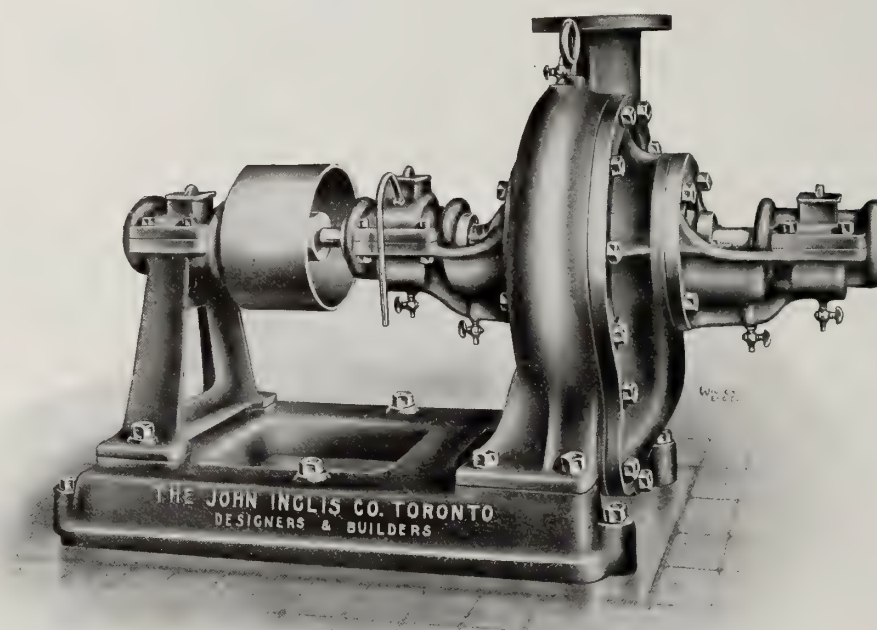
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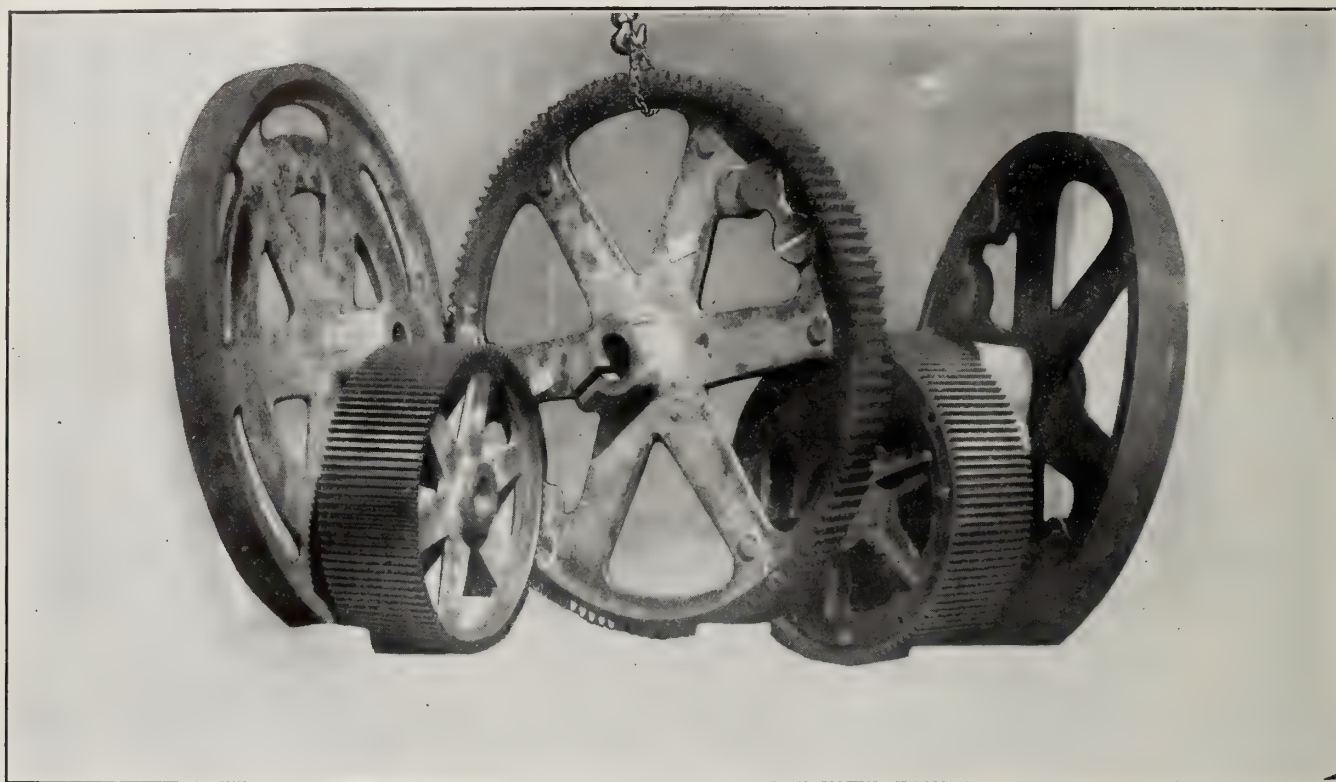
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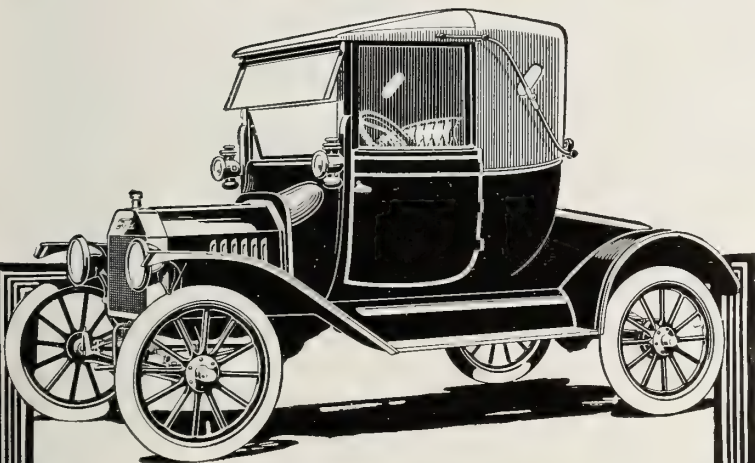


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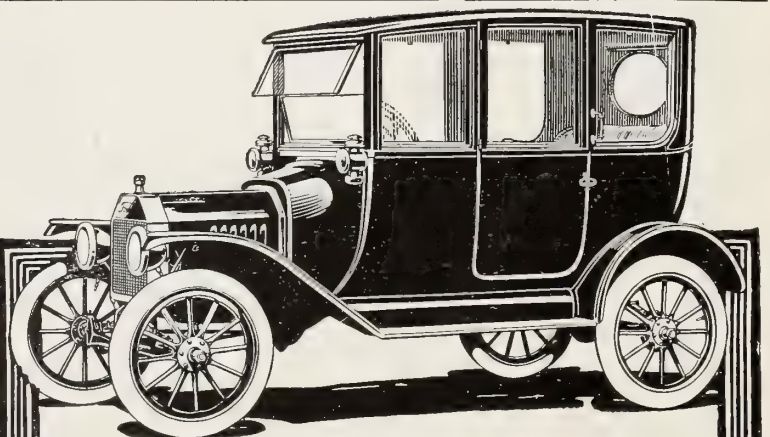


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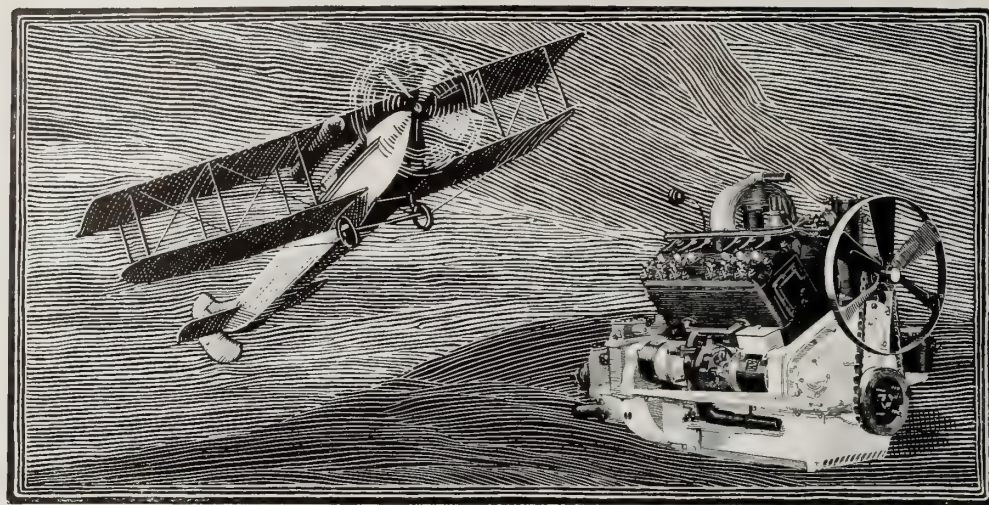
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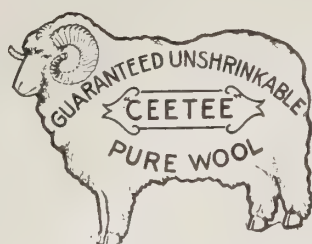
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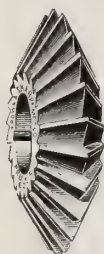
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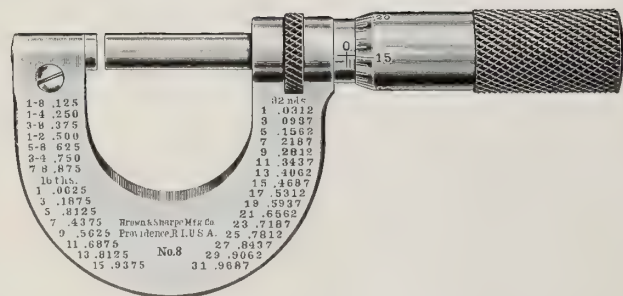
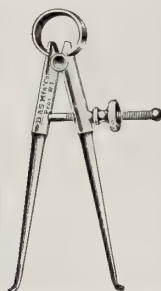
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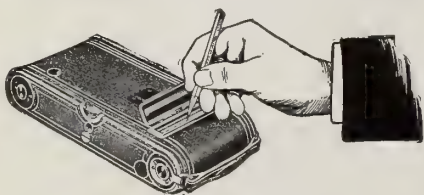
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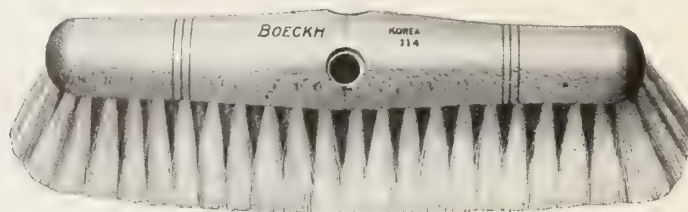
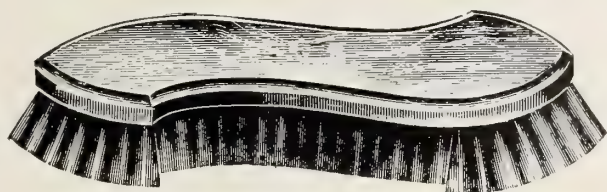
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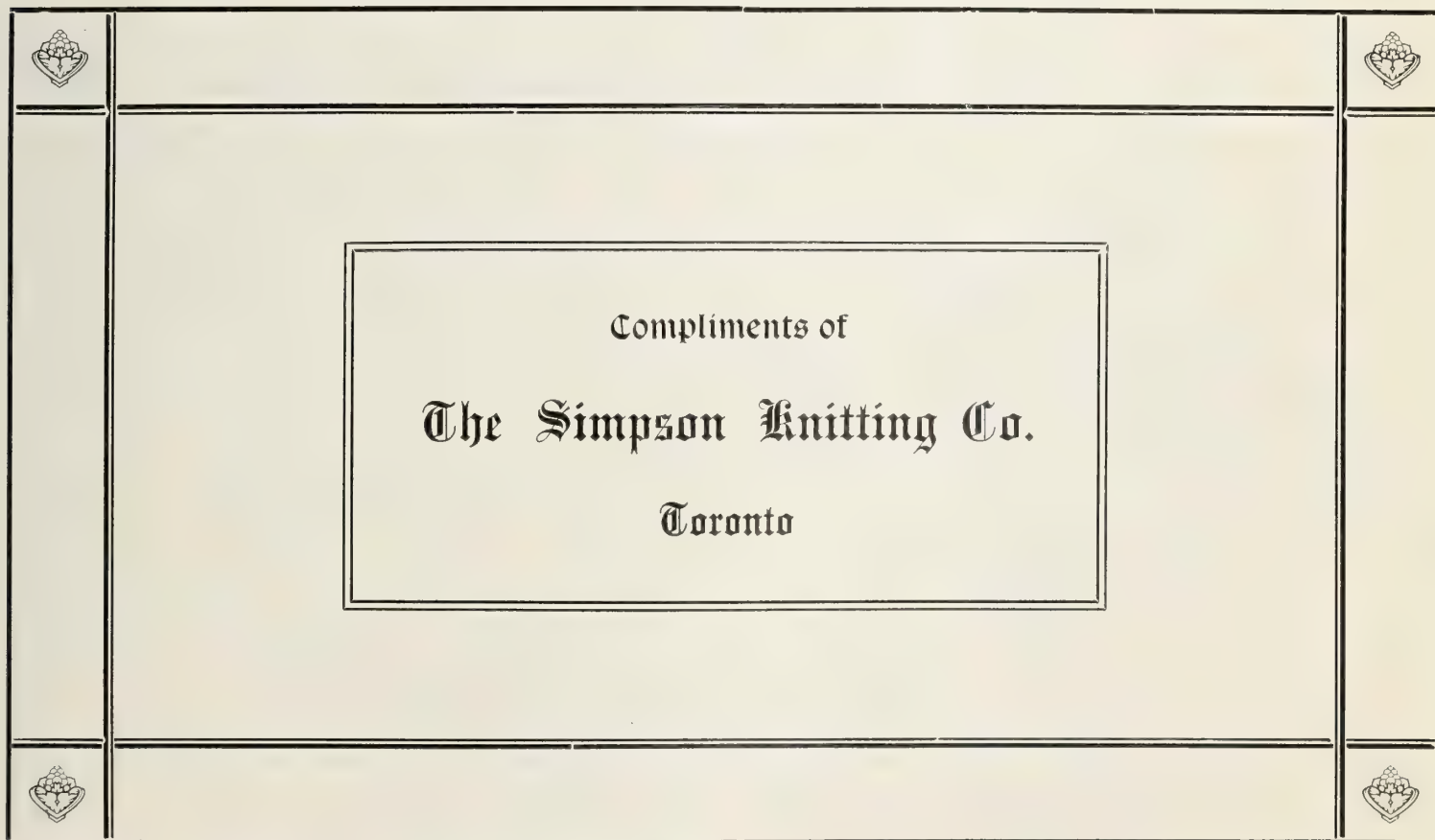
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Matthews Packing Co.,
Toronto, Can.

Sept. 25, 1916

Dear Sirs:—

I know I haven't your firm name right, but am sending this letter on the chance that it will reach the Company I have in mind. I was judging some of the animals at the Canadian Exhibition and passed your plant on the way to the grounds, but I can't seem to recall the full name.

I took on a fishing trip from there a side of your bacon. I think the wrapper was marked "Rose Brand". It was the best bacon I ever tasted. I know that any bacon is likely to be over-rated in the woods; but I am too old a bacon crank to be fooled by that.

What I want to know is how I can arrange to get this bacon regularly. Perhaps you know whether a side at a time could be sent by parcel post, or whether it would be held up by U. S. Customs.

If there would be no trouble about getting it through, I could send you some money and write for a piece when needed; and you could let me know when my credit was used up.

Very truly,

Signed...

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FOR home use, or for traveling, the ideal machine is the Corona. The Corona weighs six pounds. It is a real typewriter, standard in every respect except size and weight. It costs \$70. 75,000 users vouch for it. Write or telephone—or better still, call and have a demonstration.

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"Helvetia," "Ruby," "St. Cloud,"
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other artistic lines of French china.
All designs are the creations of fore-
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This china is carried by all the
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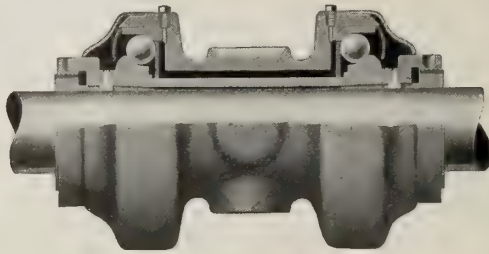
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Equip your line shafting with Chapman Double Ball-Bearings and you'll reduce friction loads 75%, making an average total saving of power 15% to 30%.

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16,000,000 Acres of the Richest Clay Loam

Millions of Virgin Acres

THAT'S the heritage of the people of Ontario. We scarcely realize that right within our boundaries is this great area of rich farm land, four times the size of this old Ontario—and greater than Great Britain or France or Germany. Moreover, these great, rich, unclaimed millions of acres are right at the door of old Ontario. Look over the map herewith. It will give you some idea of the extent of this great north land. The great Clay Belt is only a day's journey from Toronto—less than half way to Winnipeg. It has an excellent railway service over the T. and N. O., with the cities of old Ontario; and what is better still, the main line of the National Transcontinental runs right through the great clay belt that extends from the Quebec boundary to the town of Grant. In this great expanse, Ontario offers thousands of homesteads to the man who wants a home and prosperity.

The Soil

Every good soil is known by what it produces. The soil in Northern Ontario has proved its worth in producing the finest of grain, roots and vegetables. Practically every crop that is grown in old Ontario except tender fruits, will produce abundantly in the north. The soil is a chocolate clay, varying from heavy to a lighter loam. For 260 miles west from Cochrane it scarcely varies. It has a clay sub-soil—a soil that will never wear out. A final proof of its yielding powers is the prosperity of the farmers who went into the New Liskeard district seven or eight years ago.

Study the map herewith. Note that the great clay belt is on the big Transcontinental highway from East to West, and within easy distance of Toronto, Ottawa, Montreal and Quebec. A line is also proposed to James Bay.

Timber

The great clay belt is largely covered with timber varying from six to ten inches. It thus clears much easier than heavier timber, and some settlers already have from fifty to one hundred acres under crop. The timber is spruce, poplar and whitewood, all of which come in very handy for building purposes and for fencing.



Markets

There is nothing the settler produces in the north country but what finds a ready market. The great mining districts to the south absorb it all and at good prices—hay, grain, butter, eggs, pork—everything he produces. This market will be ever developing with the mining activities, so that for the years to come a steady market is assured.

HON. G. HOWARD FERGUSON,

Minister of Lands, Forests and Mines

The Future of Northern Ontario

To one who visits the great Clay belt, but realizes that one day it will be one of the great gardens of Ontario, the wealth of the soil is unlimited. It produces the finest quality of grain. Clovers grow in abundance and cattle thrive on the natural grasses. There is plenty of good water and the climate—"No blizzards in winter, no windstorms in summer."

Write—

H. A. Macdonell,

Director of Colonization, Parliament Buildings,
TORONTO, ONTARIO

DEFENDERS OF CANADA



Insure the future heritage of 100,000,000 peaceful, prosperous people—a country of immense tracts of fertile, agricultural land; of inexhaustible forests and mines; of rivers, lakes and coastal waters teeming with fish; of splendid industrial and commercial opportunities; of the highest social, religious and political freedom—a country whose past and present growth and greatness assure a magnificent future.

MAKE CANADA'S FUTURE YOURS.

Write for illustrated literature and full information to:

W. D. SCOTT,

Superintendent of Immigration,
Ottawa, Ontario.

AHRENFELDT CHINA

Among our contributors is Mr. Herman C. Kupper of New York, a citizen of the Republic of Switzerland and who has spent, before taking up his residence in New York, a great many years in Limoges, France; and who is now one of the leading importers of French china in the Dominion of Canada, representing the House of Ahrenfeldt.

Of the forty china factories which comprise the chief industry of the quaint city of Limoges, France, none ranks so high for quality of production as that owned by an American—Charles Ahrenfeldt.

Since its establishment in 1894, the factory has been noted for the close, even texture, the good color and the great translucency of its ware, likewise the lustrousness of its glaze.

From the very first a distinct effort was made, and successfully, to depart from stereotyped styles of decoration and evolve something different.

Every decoration placed on Ahrenfeldt china is an original idea and every step in the process, from the first sketch to the complete decoration on the ware, is done under the Ahrenfeldt roof at Limoges. The plant's equipment lacks absolutely no detail—from the preparation of the raw materials to the finishing touch which makes the china ready for your table. All of which insures a selectness of form and ornamentation which people of culture and refinement demand in their china services.

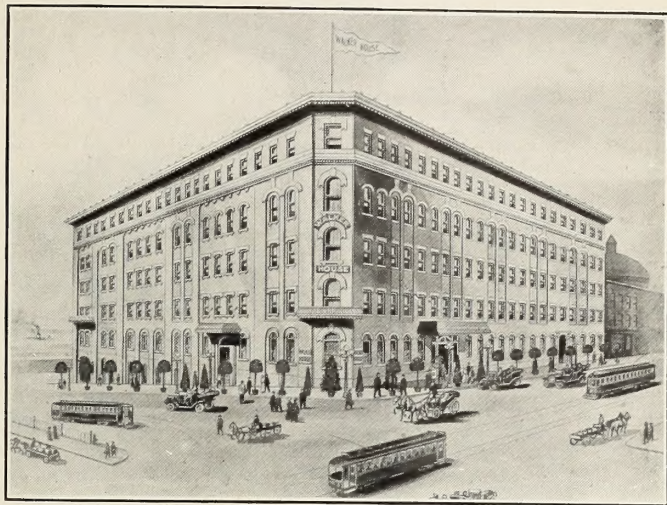
One of the most popular dinner services produced by the factory is the "Chantilly" pattern which is a revival of a style of ornamentation made famous in the 18th century by the Chantilly factory located near Paris. This factory, founded in 1725 by Prince de Condé, drew its inspiration for decorative treatment from a rare collection of Corean china which the Prince owned, and these Chantilly reproductions are now almost without price, the few known examples being in noted museums or private collections.

Beside this pattern the Ahrenfeldt factory produces great variety of equally fine and artistic designs such as, "Helvetia", "Ruby", "St. Cloud", "Roumania", "Emerald", "L'Or" which are to be found in most of the high class stores of Canada, dealing in china.

ANNOUNCEMENT

In presenting the VARSITY MAGAZINE SUPPLEMENT, the Editorial Board realizes that owing to the changing character of the material embodied in it, as a record of University war activities it is necessarily incomplete. Since the Honour Roll plates went to the press twenty additional names of Varsity men have appeared in the casualty lists as having fallen upon the field of honour. It is therefore impossible for their photographs to appear in the proper place but where pictures were secured they will be found in the General Roll.

The Students' Administrative Council have decided to continue the record of 'Varsity men on active service in a future publication and has appointed Mr. S. Childs of Trinity College and Mr. C. C. Grant, the General Secretary, for this work. A file is being constructed in the Council office to keep a permanent record of our student soldiers and any information from their friends concerning them will be welcomed for the purpose of embodying it in a future publication if addressed to the General Secretary, Varsity Office, University of Toronto.



The Walker House

YE OLD HOUSE OF PLENTY

What Pleasant Memories this name brings to Many of our Boys, who have gone to the Front in defence of our Empire. This Hotel has often been called the Meeting and Parting Place of the business and social life of Rural Ontario in Toronto.

We as Hotel-Keepers appreciate the splendid reputation our House enjoys in the homes of our great Dominion. Mothers have no hesitancy in advising their children to patronize the WALKER HOUSE and make that their stopping and meeting place, while attending the great Educational Institutions domiciled in our City.

"Home and Mother" are the sweetest words in all languages. We endeavor to provide the Home-like atmosphere in our Hotel—an atmosphere we are sorry to see departing from many of our large Hotels, especially on this continent. What a charm the word "Home" conveys to us all. We need have no fear of the future prosperity of our institution, as long as the mothers of our Dominion look upon the WALKER HOUSE for themselves and their families as their "Home from Home" while visiting Toronto.

We thank you for the patronage of yourself and friends at

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The Manhattan is known all over the world as the hotel where women traveling alone without escorts can stay in greatest comfort.

The hotel enjoys the patronage of the most exclusive people in this country and abroad. Its cuisine is justly famous and the service is of the highest order of excellence.

THE BILTMORE Madison and Vanderbilt Avenues 43rd and 44th Streets

is more than an hotel.- It is a home where every luxury, refinement and convenience known to modern ingenuity and invention will be found.

It covers an entire city block and is twenty-six stories high.

Adjoins Grand Central Terminal, at which all trains of the New York Central lines and New York, New Haven & Hartford Railroad arrive and depart. Private entrance direct from hotel to station and subways.

HOTEL COMMODORE

Fronting on Forty-Second Street and extending from Grand Central Terminal to Lexington Avenue is now in course of construction and will be ready for occupancy about September 1, 1917. The cost of construction and furnishing will approximate \$11,000,000. There will be 2,000 rooms with baths. The main Ballroom or Banquet room will accommodate 3,000 persons and atop this tallest of hotel buildings will be a beautiful Roof Garden. In fact the Commodore will have all the refinements and modern improvements that have made the Biltmore so popular. The Commodore will of course have direct entrance to the station and subways. The rates will be from \$2.00 up.



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IN SUMMER - Lunch in the Fountain Room far above the city's heat. - Tea in the dainty open air Italian Garden. - Dinner in "The Cascades," the wonderful creation atop the Biltmore. Dancing after Dinner.

IN WINTER - Skating in the Ice Gardens. Exhibitions by Professional Skaters. Thés Dansants during the week. Supper Dances every evening after the Theatre in the New East Room. Dinner Dances every Tuesday evening in the Main Ball Room. Music.